

MULTIMODAL MEANING MAKING WITH CULTURALLY RESPONSIVE IMAGES:
DESIGNING TASKS FOR 6TH – 8TH GRADE SPECIAL EDUCATION STUDENTS

By

Audra Ruth Panigacungaq Surman, B.S.

A Thesis Submitted in Partial Fulfillment of the Requirements

for the Degree of

Masters of Arts

in

Applied Linguistics

University of Alaska Fairbanks

May 2019

APPROVED:

Sabine Siekmann, Ph.D., Committee Chair
Wendy Martelle, Ph.D., Committee Member
Leslie Patterson, Ph.D., Committee Member
Catherine Moses, M.A., Committee Member
Patrick Marlow, Program Chair
Linguistics Program
Todd Sherman, Dean
College of Liberal Arts
Michael Castellini,
Dean of the Graduate School

Abstract

The following study describes the patterns that emerged from collaborative tasks among middle school students within a special education intervention class in rural Alaska. The study integrated the *multiliteracies pedagogy*, as well as *multimodalities* and *task-based language teaching*. The tasks utilized culturally appropriate illustrations to promote collaborative discussion throughout a structured set of five tasks. The research aims to answer the following question: How do sixth through eighth grade students co-construct meaning when doing tasks that incorporate culturally appropriate images?

Three students native to the community participated in this study over a two-month period. The tasks were designed around culturally relevant illustrations allowing students to use their *funds of knowledge* as they collaborated to complete the tasks. The data collection included field notes, class artifacts, video and audio recordings, and student interviews. The data presented multimodal events where students utilized their semiotic resources and funds of knowledge to make meaning during each task. The analysis revealed telling incidents of multimodal meaning making moments where culturally relevant resources support the application of funds of knowledge. The analysis also uncovered critical insights for the task design variables which can impact the ending outcome and final product of a task. As a result, I encourage the use of open-ended tasks addressing multimodal teaching to encourage culturally relevant meaning making moments, particularly within special education settings.

Table of Contents

	<i>Page</i>
Abstract	iii
Table of Contents	v
List of Figures	ix
List of Tables	xi
List of Excerpts	xiii
List of Appendices	xiv
Acknowledgments	xv
Chapter 1: Introduction	1
Problem	3
Purpose	7
Chapter 2: Literature Review	9
Multiliteracies Pedagogy: A Sociocultural Perspective	10
The design cycle.	12
Multiliteracies: Available designs	14
Multiliteracies: designing	24
Multiliteracies: The redesigned	24
Tasks: Teacher as a Designer	26
Clear outcome.	26
A gap is present	28
Use of learners' linguistic resources.	30
Focus on meaning.	31
Conclusion	32

Chapter 3: Research Methodology.....	33
Research Questions.....	33
Study Design.....	33
Teacher action research.....	34
Constructivist grounded theory.....	38
Setting.....	41
School.....	42
Process of special education.....	42
Classroom.....	44
Participants.....	45
Instructional Procedures.....	48
Research Procedures.....	51
Student interviews.....	52
Chapter 4: Analysis.....	61
The Tasks.....	61
Method of transcribing.....	64
Task 1: Sequencing Images and Developing a Story.....	66
Excerpt 4.1 “Choose a game then they started playing”.....	69
Excerpt 4.2 “They start the game an[d] then they weren’t playing”.....	73
Multiple interpretations spark disagreement behind meaning.....	78
Shared images allowed access to multimodal meaning making.....	80
Task 2: Similarities and Differences of an Image Unseen.....	81
Excerpt 4.3 “Cracker, candy an[d] cloth”.....	83

Constructing meaning of other illustrations rather than their own.	88
Limiting modes resulted with frustration.	92
Task 3: Negotiate and Order Images Unseen	93
Excerpt 4.4 “The girl’s picking berry”.	96
Challenges with sequencing without seeing.	99
Verbal dialogue alone limits meaning making.	101
Task 4: Sequencing and Developing a Story	102
Excerpt 4.5 Rearranging the Order of Seal Hunting Illustrations.	104
Excerpt 4.6 “Have to harpoon it before it drown”.	107
Having the tools for multiple interpretations and constructing meaning.	114
Designing meaning prompted a purpose for language.	116
Task 5: Understanding Similarities in Unseen Images	117
Excerpt 4.7 “It’s a black fish trap”.	122
Excerpt 4.8 “What is the picture?”.	125
Realizing task design will influence meaning making.	128
Limited visual information restricts meaning making.	129
Conclusion	130
Chapter 5: Discussion and Implications	131
Research Findings	131
Meaning making is multimodal.	132
Culturally responsive teaching supports funds of knowledge.	138
Contributing factors of teachers as task designers.	142
Implications for Researchers.	150

References.....	153
Appendices.....	159

List of Figures

	<i>Page</i>
<i>Figure 2.1: Theoretical framework umbrella</i>	9
<i>Figure 2.2: Parts of a task adapted from Ellis (2009) and Ellis (2017).....</i>	26
<i>Figure 3.1: The dialectic action research spiral.....</i>	37
<i>Figure 3.2: English intervention class routine.....</i>	49
<i>Figure 4.1: Seating positions at the beginning of task one.....</i>	67
<i>Figure 4.2: Aubree’s placement of the illustrations</i>	68
<i>Figure 4.3: Buttercup and Aubree disagreement.....</i>	71
<i>Figure 4.4: Aubree’s image order</i>	72
<i>Figure 4.5: Aubree and Rex’s explanation of images</i>	75
<i>Figure 4.6: Buttercup’s explanation using her hand to gesture switching the order of the images</i>	76
<i>Figure 4.7: Buttercup’s continued explanation of the image meaning</i>	77
<i>Figure 4.8: Multiple interpretations of the illustration “setting up to play”</i>	79
<i>Figure 4.9: Buttercup’s story progression based on her meaning made</i>	80
<i>Figure 4.10: Images taped to their back</i>	86
<i>Figure 4.11: Buttercup’s illustration</i>	87
<i>Figure 4.12: Buttercup Task 2 written reflection</i>	91
<i>Figure 4.13: Seating positions for Task 3</i>	93
<i>Figure 4.14: Seating positions for Task 4</i>	103
<i>Figure 4.15: Aubree changing illustration order</i>	106
<i>Figure 4.16: Rex’s reaction to Buttercup’s illustration</i>	110

<i>Figure 4.17: Teacher’s restatement and gestures in responses to Rex’s illustration order</i>	111
<i>Figure 4.18: Buttercup’s disagreement and explanation to Rex.</i>	112
<i>Figure 4.19: Buttercup and Aubree’s discussion about Buttercup’s drawing.....</i>	112
<i>Figure 4.20: Prompting Rex by referencing illustration “going seal hunting”</i>	113
<i>Figure 4.21: Teacher prompting Rex by creating a gap between the illustrations.....</i>	114
<i>Figure 4.22: Student venn diagram for Task 5.....</i>	117
<i>Figure 4.23: Seating position for Task 5</i>	120

List of Tables

	<i>Page</i>
Table 2.1: <i>Multiliteracies Design Process</i>	13
Table 2.2: <i>Social Semiotic Modes in Focus</i>	19
Table 2.3: <i>Task Performance Classification (Ellis, 2003, p. 10; Ellis & Shintani, 2014, p. 137)</i>	30
Table 3.1: <i>Elements of TAR in Relation to my Study (Mills, 2018)</i>	35
Table 3.2: <i>Elements of CGT Actions in Relation to my Study (Charmaz, 2014, p. 15)</i>	39
Table 3.3: <i>Student Demographics</i>	46
Table 3.4: <i>Research Activities</i>	56
Table 4.1: <i>Order of Tasks and Objectives</i>	62
Table 4.2: <i>Transcription Symbol Meanings</i>	65
Table 4.3: <i>Images from Angqalleq Kiagmi</i>	67
Table 4.4: <i>Aubree’s Images</i>	69
Table 4.5: <i>Illustrations Taped Behind Students’ Backs</i>	81
Table 4.6: <i>Select Dialogue from Excerpt 4.3: Task 2</i>	88
Table 4.7: <i>Select Dialogue from Excerpt 4.3: Task 2</i>	90
Table 4.8: <i>Select Dialogue from Excerpt 4.3: Task 2</i>	90
Table 4.9: <i>Iqcaryaqatartukut Story Sets and Order</i>	94
Table 4.10: <i>Order of Events in Blind Retell</i>	96
Table 4.11: <i>Images Selected for Task 4</i>	102
Table 4.12: <i>Rex’s Ordering of the Illustrations</i>	104
Table 4.13: <i>Images Used for Task 5</i>	119
Table 5.1: <i>Task Design Variables in Relation to Task Focus, Adapted from Ellis (2017)</i>	136

Table 5.2: <i>Task Classification and Design Variables</i>	142
--	-----

List of Excerpts

	<i>Page</i>
Excerpt 4.1: <i>Task 1: “Choose a game then they started playing”</i>	70
Excerpt 4.2: <i>Task 1: “They start the game an[d] then they weren’t playing”</i>	73
Excerpt 4.3: <i>Task2: “Cracker, candy an[d] cloth”</i>	84
Excerpt 4.4: <i>Task 3: “The girl’s picking berry”</i>	97
Excerpt 4.5: <i>Task 4: Rearranging the Order of Seal Hunting Illustrations</i>	105
Excerpt 4.6: <i>Task 4: “Have to harpoon it before it drown”</i>	108
Excerpt 4.7: <i>Task 5: “It’s a black fish trap”</i>	122
Excerpt 4.8: <i>Task 5: “What is the picture?”</i>	126

List of Appendices

	<i>Page</i>
Appendix A: Project Approval Letter.....	160
Appendix B: Amendment/Modification Letter.....	161
Appendix C: Illustrations from <i>Angqalleq Kiagmi</i> (Lincoln & Moses, 2013, p. 2) Used in Task 1	162
Appendix D: Illustrations from <i>Uqiqurnariuq</i> (Moses & Moses, 2013, p. 6) Used in Task 2...	172
Appendix E: Buttercup Task 2 Written Reflection.....	175
Appendix F: Illustrations from <i>Iqvaryaqatartukut</i> (Samson & Moses, 2013, pp. 1-3) Used in Task 3.....	176
Appendix G: Illustrations from <i>Ciquyam Pet'qerraallra</i> (Moses & Moses, 2013, p. 2) Used in Task 4.....	179
Appendix H: Student Drawings for Task 4.....	183
Appendix I: Images Used in Task 5.....	185
Appendix J: Task 1 Journal Prompt.....	188
Appendix K: Task 2 Journal Prompt	189
Appendix L: Task 3 Journal Prompt.....	190
Appendix M: Task 4 Journal Prompt.....	191
Appendix N: Task 5 Journal Prompt	192

Acknowledgments

This research would not have been possible without many influential contributing factors to which I am eternally grateful for. A big thank you extends to the University of Alaska Fairbanks and the Lower Kuskokwim School District for to the financial support and grant funding to support the Literacies for Emergent Bilinguals Program. I would also like to extend my gratitude to the UAF Applied Linguistics Program, UAF Teacher Education Program, and the Kuskokwim College for their dedication to further the education of teachers in rural Alaska.

I would like to thank my college professors, Dr. Sabine Siekmann, Dr. Wendy Martelle, Dr. Leslie Patterson, Mrs. Anne Armstrong, Dr. Joan Parker-Webster, and Dr. Patrick Marlow. I would like to extend a special thank you to Cathy Moses for her guidance and encouragement throughout this journey. I also would like to express my sincere thanks to Dr. Sabine Siekmann for her patience and continuous support throughout my research process. I would like to extend my gratitude out to my cohort, Irene Wassillie, Sheila Phillip, and Kayla Ashe as well as all of my colleagues for all of your support and friendship made over the past three years. A special thank you extends out to Jenna Boyd for always being ready to help me problem solve through any dilemma I faced. A special thank you to Darlene Lincoln for supporting me throughout my research journey and providing me insight into the Yup'ik ways of knowing. A very special thank you to my family, Laura, Roger and Tyler Surman for reminding me to keep working hard and supporting me through every challenge I faced.

Quyayuganka cakneq ilanka, calillgutenka-llu. Thank you so much to my family, friends and colleagues. *Tua-i-ngunrituq.* There is still more to learn. This is not the end.

Chapter 1: Introduction

I begged my mother, “please, just one more *Madeline* story?” as I lay in bed not ready to fall asleep. My mother flipped the page to the next story of *Madeline and The Bad Hat* and continued reading “In an old house in Paris that was covered with vines...” I fought to keep my eyes open as I looked at the illustrations that went along with each page. Before I knew it, I had closed my eyes and had fallen fast asleep.

I remember being curious about reading as a child and wondered different questions: How did my parents learn all of those words? How did they know when to pause or to change their voice? Why would they make a book without pictures? Would I ever understand how to read all of those words and still enjoy the story just as much as being able to listen to it? Reading was a challenge for me as I grew up. I was placed in small reading intervention groups from first grade up through sixth grade. I remember feeling excited to have a special bag of books to bring home and read with my parents, yet when it was my turn to read the words from the book, I would resist and find a way to avoid reading. With the efforts made at school and the endless support from my parents, I began to build up my confidence as a reader and found books that I actually enjoyed reading.

I grew up in a small town in central New York surrounded by farming land and the great outdoors. Nature has always been a large part of my life, exploring, creating and dreaming from the wonders surrounding me. Family hikes year-round to campouts in the woods behind our house, I was immersed in the countryside. My enjoyment of the outdoors led me to *Little House on the Prairie* series by Laura Ingalls Wilder. I enjoyed the adventures that Laura would create for herself. I could picture myself running right alongside her at the banks of Plumb Creek or

sitting around the fire listening to Pa play his fiddle. I felt like I found new adventures in the pages. Reading was still not my choice activity growing up, but I did learn to enjoy it for myself.

It was not until my freshman year of college when I realized that education was the career path I wanted to pursue in an effort to help other kids who might be struggling academically. I was enrolled in the Interdisciplinary Arts for Children program at The College at Brockport in New York, where I then applied for the education certification program in the area of elementary general and special education. This was where I built my foundation of knowledge surrounding arts integration in the classroom. From this coursework, I started to understand that each child brings unique qualities into the classroom. I started to realize that an important part of teaching is using the skills that each child has within the classroom just as I had found joy in reading about Laura Ingalls.

I never imagined finding my career 3,698 miles away from my hometown, yet, after hanging up the phone from my job interview, I started planning for my move. Toksook Bay, Alaska is a coastal village on Nelson Island in Southwest Alaska. The population is made up of about 600 people, with mostly native Yup'ik backgrounds. The Yugtun language is used predominantly throughout the whole village. I quickly learned *quyana*, meaning thank you, and the nonverbal responses for yes and no that is used by many of the students. I began working at the Nelson Island Area School during the fall of 2015 where there are about 180 students from grades Kindergarten to 12th grade.

Even at the start of my fourth year teaching I looked forward to seeing the eager students making their way through the school front doors at 8:00 AM. I greeted co-workers and students as we all are eager for the new school year. I was stunned at how much taller the students grew

over the summer months while I was away! “Welcome back, Islanders!” I said as the students came into school.

I believe that my experience in Toksook Bay has been one of a kind given the rich culture present in the community. I work as the school Elementary/Middle School Special Education (SPED) teacher and have learned that flexibility and a positive mindset is the key in having a successful day. My day to day routine includes working with specific students based on their unique needs. I push into classrooms as well as pull students out to work one-on-one or in a small group.

Each child that walks through my classroom door is filled with positive interactions and encouragement. These interactions help support their confidence when they are faced with a difficult challenge. An elder in the community once told me that just as each wave crashes onto the shore differently, we are all different beings with different strengths and abilities. We should not be withdrawn because of our differences, rather, proud of what makes us special and share that gift with others. It is a part of my job to search for these talents and abilities and allow my student to see these strengths. This results with me utilizing the best method of teaching that fits that child’s learning style. As I have learned more about how my students work and respond, I have acted like a detective, seeking out how to ensure my student is most successful in achieving their goals as well as overall growth for future success.

Problem

As a Special Education Teacher, I focus on targeted areas of needs for each of my students. Each student has an Individualized Education Plan (IEP), which I refer to when working with my students. It is critical that each document is upheld with fidelity for the student’s needs as well as the legality of each document for each child. Many of my younger

students receive additional support with speech and language, as well as general academics including math and reading. When focusing on my middle and high school students, there are more specific areas of instruction targeted in a Specific Learning Disability which is unique to each student's needs.

It is critical to be mindful and observant of my students' actions and needs in order to respond with certainty. I have been able to learn a lot about my teaching through reflection and journaling. When reflecting on notes from the previous school years, it was interesting to see how students have grown, developed, or even stayed the same just based on my observations of the student. In addition to observations, Special Education is uniquely designed to use many forms of data to record progress for further goal setting and growth. With these two forms of observation I am able to make a sound judgment to support my students learning and academic achievement.

One of the largest overlapping area of need I saw for my students was their listening and reading comprehension. My students were able to informally converse and communicate well with their peers and teacher; however, I noticed oral and written comprehension questions were very challenging for my students to complete independently. I attended a training for the Lindamood-Bell Program, *Visualizing and Verbalizing*® (VV), in the fall of 2016 where I learned how this program utilizes pictures to support students when learning how to comprehend text (Bell, 2007). Once students understand how to comprehend and describe an image, they will be able to apply those skills to then create a mental picture to support their ability to summarize written text.

The first step in VV is explaining through a visual picture what we will be doing. When working individually with a seventh-grade student, I drew a picture that showed both of us sitting

next to each other. The picture of her had a talking bubble saying the word “fish” and the picture of me had a thought bubble of a fish. I explained to her that we would be describing pictures and creating mental pictures.

I then revealed a picture to the student on an easel for her to describe to me. I asked her “what is the main thing in this picture, the *what?*” The student then shared what she saw by describing the main details. This student was successful in pointing out the main thing, which was a man in a diving costume. Our discussion continued as she shared different elements about the picture by describing the size, color, location, numbers, shape, where, movement, mood, background, perspective, when, and sounds that she interpreted from the illustration. These descriptors were known as the structure words and they help the student determine all of the details from the picture. The last step in VV is to look at the picture together and determine what was pictured correctly and what was pictured differently. With this student, we realized there was a word barrier with describing the background of this underwater picture. There was pink coral below the man in the picture and my student did not understand how to describe this element. During the last step of examining the picture together we were able to talk about this misconception and learn about different forms of coral.

If the student is able to describe what they see in the picture through the structure words without much prompting, then we would move on to the next step of describing a known noun that the student shares. This is typically a familiar object or thing that is well known by the student so they can describe it in great detail. Following this step, we would transition into examining sentences one at a time and then eventually paragraphs and finally full pages of text. The issue I continually faced was the lack of culturally relevant images when using this resource. For example, I had two first grade students describing one image that included a cement curb. A

sidewalk curb is not found in rural Alaska and is a challenging thing to describe if there is no background knowledge for this concept. I could continue to ask my student in different ways to describe what they are seeing in hopes that they will understand what they are saying; but, if the student does not have enough background knowledge of the content within the image, I found my students would not know how to describe what they are looking at.

As I have understood from my own personal experiences, it is critical to connect with the students' interests. This led me to consider my students' cultural funds of knowledge and I wanted to find a way to determine how culturally relevant content could support my student's meaning making. I was also interested in providing meaningful opportunities for students to use their language repertoire. For these reasons, I decided I wanted to utilize culturally relevant images to elicit student responses and dialogue. Throughout my studies, we have discussed the complex meaning making cycle that encompasses comprehension. Trying to construct meaning should not be an isolated unit of instruction, rather be very integrated into the student's language and content learning. With the complex meaning making cycle to consider, I wanted to investigate how my students make meaning. I was also interested in learning how collaboration across a small group of students could impact the meaning-making process. All of these curiosities lead me to my current research question: How do sixth through eighth grade students co-construct meaning when doing tasks that incorporate culturally appropriate images?

In order to investigate this question, I designed tasks where my students could observe culturally relevant images in a structure that required them to use different meaning making resources to develop their understanding. Each task had a different purpose as far as how the images were used independently or as a group. For example, the task might have all of the students working with all of the images or limit the students to only viewing a few images at a

time. The tasks were designed to support the student's application of meaning making skills as well as encourage them to work together when completing the task.

I collected my data by using video and audio recording devices, student interviews, as well as collecting student written and drawn artifacts. The written artifacts were mainly reflections on the task and one task utilized a graphic organizer to help support note taking. Upon completing the tasks, I then transcribed the recordings and took note of critical meaning making moments. I developed tables to help organize the information that was being discussed.

Purpose

This study is significant to me because I wanted to learn more about how my students make meaning and how this could support my students' overall comprehension skills and strategies. I wanted to learn how students use language during a collaborative task and how this might impact their learning. I was also curious about the impact of culturally relevant images would have as a resource to my students. This study will help me better understand my students as well as how to structure future tasks that support my student's meaning making.

Furthermore, this research considers students who have an IEP. This study hopes to address what best teacher practice could be used to support their unique needs among other individual learners. Also, what instructional practices should educators use when supporting multilingual language learners? The findings in this study will not only support the individual students but will also help educators in similar teaching conditions construct meaningful instructional practice.

This study is critical given the growing number of English Language Learner (ELL) programs developed across the country. This study is meaningful for other educators because it is addressing the development of meaning making for students learning multiple languages. This

study takes each of the student's individual needs into consideration when developing tasks. Educators would be interested in learning how carefully designed tasks could support students construct a richer understanding when we consider the skills and abilities of the learner.

The following chapters are organized to highlight critical information and findings that connect back to the research question: How do 6-8 grade students co-construct meaning when doing tasks that incorporate culturally appropriate images? Chapter 2 addresses the literature used in this study including: multiliteracies, multimodalities, funds of knowledge, and task-based teaching. Chapter 3 explains the methodology behind the data collection and the procedures that I followed. Chapter 4 breaks down each task and highlights critical student meaning making moments as it relates to my research question. Finally, Chapter 5 captures my conclusions as well as further questions regarding meaning making.

Chapter 2: Literature Review

My research is based on the understanding that meaning making is socially negotiated when learners co-construct ideas through the use of semiotic resources. In order to provide background for my study on meaning making through tasks, I will discuss the following: *multiliteracies* (Cope & Kalantzis, 2009; New London Group, 1996), *sociocultural theory* (Lantolf & Thorne, 2006; Vygotsky, 1978), *multimodality* (Jewitt, 2011; Kress, 2010), *funds of knowledge* (Moll, 1992) and *task-based language teaching* (Ellis, 2003, 2017) as illustrated in Figure 2.1.

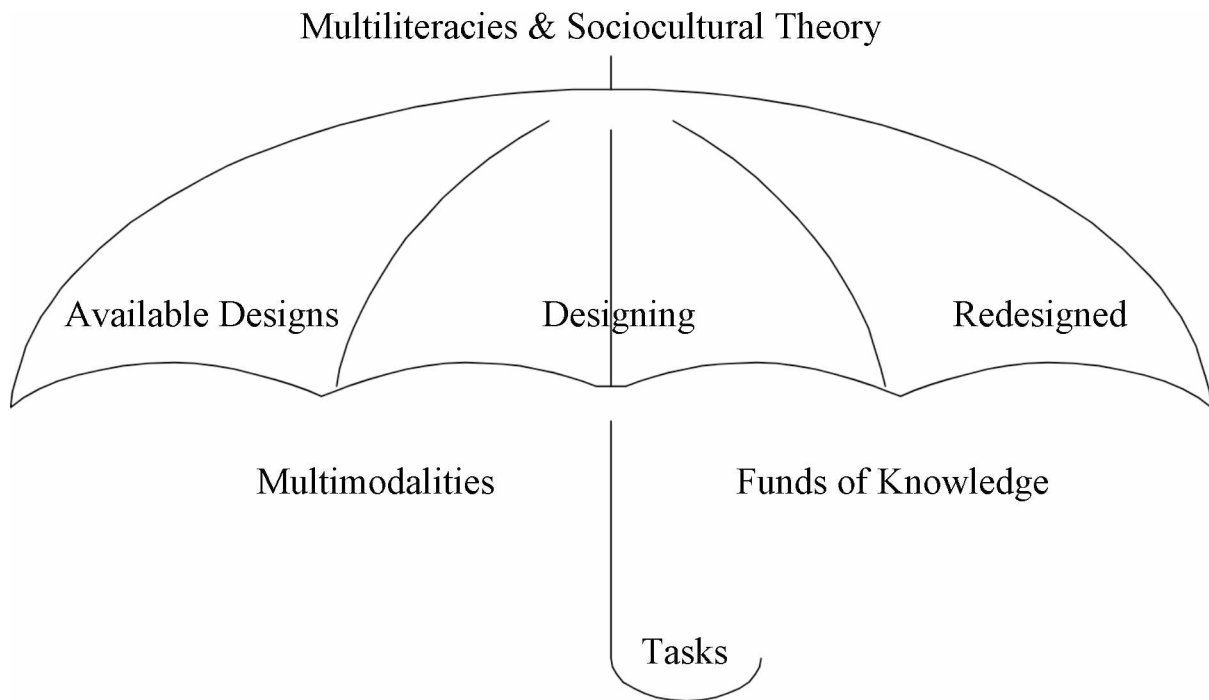


Figure 2.1: Theoretical framework umbrella

The multiliteracies framework (Cope & Kalantzis, 2009; New London Group, 1996) and the complementary sociocultural theory (Lantolf & Thorne, 2006; Vygotsky, 1978) are viewed as the overarching stance that captures the other elements within and under the umbrella. This stance that learners actively construct meanings in socially mediated contexts and using socially

constructed resources, is captured in the design cycle consisting of available designs, designing, and redesigned. This designing process follows a cyclical nature which encourages the use of multimodalities and funds of knowledge. The phases of designing dip down into the multimodalities and funds of knowledge continuously throughout each design process. The multimodalities and funds of knowledge are used by learners as systems to support meaning making within the designing cycle. Finally, the umbrella is supported by task-based language teaching which is an instructional design that supports the use and application of all the other features above the handle of the umbrella.

Multiliteracies Pedagogy: A Sociocultural Perspective

The innovative, *multiliteracies pedagogy*, is reshaping education and teachers' understanding about knowledge building; this pedagogy views learning as an active, social and cultural process of meaning making (Cope & Kalantzis, 2009; Healy, 2008). The New London Group (1996) collaboratively constructed a new approach to literacy learning which emphasized participatory roles of teachers and learners. The group states, "literacy educators and students must see themselves as active participants in social change, as learners and students who can be active designers—makers—of social features" (New London Group, 1996, p. 64).

Multiliteracies recognizes meaning making as an event where learners utilize cultural and linguistic tools to understand and process learning that is designed socially. The New London Group (1996) urged educators to structure a learning environment that welcomes learners to participate in social interactions for meaning making. Sociocultural theory focuses on these social exchanges that occur between learners when constructing meaning (Smagorinsky, 2018; Storch, 2017).

Sociocultural theory (SCT) is a theoretic framework that views learning as occurring in social events; social exchanges between an expert and a novice learner result in a dynamic cultural understanding (Smagorinsky, 2018; Storch, 2017). More specifically, Vygotsky views cognitive development as a social practice where “knowledge is constructed by interactions of individuals within society, and learning is the *internalization* of the social interaction” (Storch, 2002, p. 121). Internalization can be understood as the “organic connection between social communication and mental activity” involved when constructing meaning (Lantolf & Thorne, 2006, p. 203). In order to internalize a new idea, Vygotsky believed that learners engage in a *transformative process* where “the knowledge that was co-constructed with the expert” (Storch, 2017, p. 70) is transformed into a new understanding, or what members of the New London Group (1996) might call a new available design or the redesigned. Given each learner’s unique background, this process of designing is a variation of what is being interpreted from the expert, resulting with a transformed result. This idea directly relates to the cyclical design process (Cope & Kalantzis, 2009) which describes how learners apply their available designs towards knowledge building, as they construct a new designed idea. When a learner uses the available resources that surround them, deeper meaning is constructed and internalized as a new design.

Another aspect of Vygotsky’s sociocultural theory is the complex process of the learning that occurs between a novice and an expert (Lantolf & Thorne, 2006; Wells, 2009; Vygotsky, 1978). The *zone of proximal development* (ZPD) according to Vygotsky, (1978) this is “the distance between the actual developmental level as determined by individual problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 86). This means that all learning is transformative and has the potential to develop based on the social and cultural experiences of

the students. ZPD is impactful for educators and this study as the scope of the learners' present understanding will lead to further designing (Lantolf & Thorne, 2006). This means that the amount of potential knowledge that a person is capable of acquiring is based on their current cognitive abilities as well as the surrounding levels of support in the social process of learning (Lantolf & Thorne, 2006; Wells, 2009; Vygotsky, 1978). In my study, I am interested in finding out how learners might work together in the designing process and in what ways they use their available designs to construct meaning with cultural images. The ZPD is a social event where the process of sharing knowledge leads to learner independence based on the experiences that surround them which will occur during the design process of constructing meaning (Lantolf & Thorne, 2006; Wells, 2009; Vygotsky, 1978).

The design cycle.

What is it that separates multiliteracies from other literacy practices? The New London Group (1996) structured their work around the dynamic progression of *design*, where the learner applies their understanding to develop a new understanding by actively processing his or her own meaning as well as the meanings around them (p. 65). Cope and Kalantzis (2009) have further developed this idea around three key concepts: *available designs*, *designing*, and *the redesigned* (p. 175). The word design is being used to represent the creative process of constructing meaning. The available designs, designing and the redesigned have different foundational purposes for learners to work through when developing meaning.

Table 2.1: *Multiliteracies Design Process*

Available Designs	Found and findable resources for meaning: culture, context and conventions of meaning making.
Designing	The act of meaning making: a process of work done with available designs to develop a new understanding.
The Redesigned	The transformation: the creation of new available designs and transformation of individual learning

Adapted from Cope and Kalantzis (2009, p. 176)

The available design includes the different types of resources that the learner is able to communicate through. During the designing process the learners apply their different available designs to construct a new form of understanding. This new meaning results in the redesign stage where the learner has transformed their understanding and created a new available design. The multiliteracies design process is cyclical in nature because there is no defined order or completion for each of these three processes; however, each process contributes different qualities towards to meaning making process.

For example, an educator developed a multiliteracies project for their middle school class by integrating English with science and history (Healy, 2008). The students expressed great interest in the effects of climate change had on the ocean. The students were asked to take a critical stance on this science-based issue. They then investigated the topic and created a short documentary including the information they found. The students gathered information through the use of the available designs including news reports, text books, as well as experts within the field (Healy, 2008). Next, the teacher brought in a journalism specialist to help the students understand the different possible designs that their documentary could include (Healy, 2008). The students learned first-hand from a professional in the field how to share their findings through the creation of a digital video. The students needed to be critical with how they presented their findings through the use of spoken text, visual text, pictures, and other digital

elements to portray their findings. Throughout this process the students were designing and redesigning how to interpret and represent the facts and data points that they had learned during their research process. One student group decided to pursue their learning further and developed a DVD that was then shared with other grade levels academic practice (Healy, 2008). The DVD is just one example of the redesigned knowledge that the students in this middle school class created around this science research project.

Multiliteracies: Available designs.

Available designs are sources of knowledge that are understood and can be used by the learner. Through *available designs* the learner is able to apply their own funds of knowledge based on their individual experiences, practices and learning (Cope & Kalantzis, 2009). This is where the designer utilizes tools, such as cultural knowledge, that are readily available and understood by the learner. Available designs, for example, include the cultural skill of knowing how to weave together a fishing net, or being able to utilize classroom resources such as printed books, or group constructed charts on the walls of the classroom.

Funds of knowledge.

Funds of knowledge are “the essential cultural practices and bodies of knowledge and information that households use to survive, to get ahead or to thrive” (Moll, 1992, p. 21). This idea recognizes that teachers are not the only source of knowledge in the classroom; rather, each student brings a wealth of knowledge into the classroom each day. Each household follows a unique set of rules and practices different traditions; these qualities help shape each child in different ways (Moll, 1992). Moll (1992) also states “if literacy is viewed as a set of cultural practices then education for literacy is more naturally seen as a process of socialization, of induction into a community of literacy *practicers*” (p. 21). When funds of knowledge are

utilized within the classroom, students are able to naturally apply their cultural skills within their social construction of meaning (Moll, Saez, & Dworin, 2001; Swain, 2000).

Martin (2008) has applied the idea of cultural aboriginal knowledge to Multiliteracies and developed parallel ideas, supporting this social practice of learning. She explains that oral stories or *ways of being*, carry many known traditions within a cultural community (Martin, 2008). I understand Yup'ik storytelling as being communal and shared throughout a community of people as lessons to follow and as traditions to keep (C. Moses, personal communication, November 25, 2018). A neighboring community might have a different story, yet the message in the story is still transferable and relatable to the next person. For example, each *yuraq*, traditional song and dance, is developed based on the composer's experience. They design lyrics that represent a particular lesson or event that took place. The movements are meant to represent the words and bring the story to life. Because each song and dance come from such personal connections within the composer, each creation is bound to be different. So, while two communities may have a *yuraq* about driving a boat, for example, the lyrics, movements, and message of the song will vary. These stories provide a sense of identity and connection with each community's cultural traditions.

When we apply this rich knowledge from the community into the classroom, learners can apply their own experiences or *ways of doing*, to their knowledge building to construct new understandings (Martin, 2008; Moll, 1992; Moll et al., 2001). When a classroom invites cultural learning, students have the ability to express “known and new knowledge through visual, verbal, special, gestural, and audio elements, the student have a choice about how to think about and construct their texts for particular purposes and audiences” (Martin, 2008, p. 71). By considering

the wealth of knowledge that is present within the community, purposeful culturally relevant learning takes place.

Considering the local knowledge surrounding my community: subsistence hunting, sewing, carpentry, mechanics, food processing and storage, weather safety, and others, it is clear that there is much to learn from the families in the local community. I have learned that each family has their own take on the above listed skills, yet each practice is an available design where rich meaning making can take place. This also allows for learners to gravitate towards foundational skills such as sewing a pillow, which would be more applicable to their meaning base before applying their skills to something more difficult such as sewing a full skirt *qaspeq*. As Moll (1992) points out, when students have the opportunity to learn first-hand from the community's knowledge, a level of purpose and meaning is highlighted in their own progression of education. When teachers draw on students' funds of knowledge during routine instruction, rote practice, and testing, there is purpose and application to the content with these real-world experiences.

The perspective of the teacher is also a critical feature when building a classroom community that empowers students by drawing on their funds of knowledge. There are significant actions that teachers take when considering the best ways to develop a classroom that maximizes conversation (Moll et al., 2001). Teachers bring their own set of funds of knowledge to the classroom. Freire (2005) points out that humility is a key trait that can help all learners and teachers understand that their personal knowledge is not the only truth in life, rather, everyone has something to share and learn from others. In fact, Freire (2005) directly addresses this concern by stating:

I do not have *the truth*; this book contains *truths*, and my dream is that as those truths challenge or question the positions taken by the book's readers, they may engage those readers in a critical dialogue in which their practice, their understanding of the theory that informs that practice, and my analysis will serve as a frame of reference. (p. 86)

Martin (2008) shares this same argument by acknowledging that educators follow a number of teaching strategies to support student education. The application of multiliteracies should be recognized as another way to support meaningful learning. By following an inclusive model of learning such as multiliteracies, knowledge is found beyond just the teacher, and is discovered within each of the students and the surrounding community (Healy, 2008; Martin, 2008; Moll, 1992; Moll et al., 2001).

Modalities of meaning making.

When we look more closely at multiliteracies, a critical part of the pedagogy involves the awareness of modalities as an “integration of significant modes of meaning-making, where the textual is also related to the visual, the audio, the special, the behavioral, and so on” (New London Group, 1996, p. 64). These modes can also be referred to as semiotic resources, that learners apply when making meaning. Viewing meaning making as a *multimodal design process* emphasizes that knowledge, learning and communication involve more than spoken and written language; rather, multimodal processes occur with a multitude of complex systems working together to construct meaning (Jewitt, 2011). Through multimodalities, “meanings are made, distributed, received, interpreted and remade in interpretation through many representational and communicative modes” (Jewitt, 2011, p. 14). In this way, multimodalities follow the process of utilizing the available resource to process information to then develop a newly understood idea.

Looking closer at the multimodal process, we must understand the social construction of *modes* or “semiotic resources for meaning making” (Kress, 2010, p. 79). Jewitt (2011) defines *semiotic resources* as “a system of meaning that people have at their disposal” (p. 23). Kress (2010) also explains “meanings are socially made, socially agreed and consequently socially and culturally specific” (p. 88). In this way the terms *modes* and *semiotic resources* are closely related in meaning in relation to the design cycle. As a result, I will use the terms interchangeably from here on. The *modes* are understood as available designs and are resources that are created and acquired through cultural interactions (Jewitt, 2011).

What is a mode? According to Kress (2010) a mode could be any of the following partial list: an image, writing, layout, music, gesture, speech, moving image, soundtrack and 3D objects. Importantly, each mode holds different qualities within the designing process that allow us to communicate with different *affordances* for meaning making. An *affordance* according to Jewitt (2011) is “meaning potential” or “what it has been repeatedly used to mean and do, and the social conventions that inform its use in context” (p. 24). Kress (2010) also articulates this same idea when defining *affordances* as “select materials [...] which seem useful or necessary for meaning-work in that culture to be done” (p. 82). As we interact in the socio-semiotic practice of meaning making we are further developing our own available designs. For example, the *affordance* or meaning potential of learning how to use a sewing machine might be accomplished by observing a skilled artisan, or by reading through the manual, or possibly watching a tutorial video. Obviously, each experience would bring different *affordances*, and some might work better than others. The skills that one individual has with using a sewing machine could be very different from another, based on what purposes they use the sewing machine for as well as what they create. The sewing machine is the same tool, but can be used for creating, fixing, and

developing many products. Meaning potential can look different among each person as well as across each culture.

Within my research I will be focusing on the following modes: *speech*, *writing*, *images*, *gesture*, and *kinesthetic* movement (see Table 2.2). Each mode holds different meaning qualities. One way to think about how each mode is different, is when a book is made into a movie. Some might find the book to be better than the movie while others might find the movie more exciting. This is because the meaning that is made from the written text of a book will be interpreted differently from person to person. The film will be received or rejected for the different visual elements, and other features used when trying to depict the written words from the pages. The key point is that it is not possible to exactly replicate the other modes through the use of a different mode. Therefore, it is important to understand how differently each mode supports the meaning that is made.

Table 2.2: *Social Semiotic Modes in Focus*

Speech	Writing	Image	Gesture	Kinesthetic
Occurs within a sequence of elements in time	Spatially displayed and supported by the logic of speech	Presented on a surface or framed space	Movement accompanied with speech	Movement is unaccompanied by speech

Speech is a mode that is ephemeral and is based on the progression of elements within time (Kress, 2010). Once an utterance has been spoken, we cannot go back in time to replay or change it. Speech utilizes learned structures such as words, sentences structure and grammar of the language (Kress, 2010). Additionally, speech provides for a depth of qualities including volume, stressing of words, rhythmic organization, pitch, sustained and stretch sounds, as well as silence (Kress, 2010).

Writing utilizes a spatial display of text that follows the format of spoken words (Kress, 2010). Writing is a linear process due to the learned systems such as reading left to right from the top to the bottom of the paper. The benefit of writing is the ability to go back to text and reread or edit the information. Additionally, because writing does not occur in real time, the use of punctuation, font, letter size, color, spacing, and other graphic qualities supports the meaning that the text is trying to portray (Kress, 2010). It is also important to note that spoken words and written words are socially mediated. Different dialects of the same language develop an understanding of a word based on how it is socially used. An example of this in the use of the word soda can versus pop can, or snowmobile rather than snow machine. The culture in which the language is used will determine the meaning that it makes.

The process of reading a visual image however, is different because the reader focuses on only the frame content that is presented. Images are utilized all around us in everyday life, from pictures seen in user manuals, photos and graphics accompanying newspaper articles, to the photos we store on a cell phone. Images are displayed depictions within an arranged space (Kress, 2010). The meaning of an image is made through the viewer's interpretation of the qualities within the framed space (Kress, 2010). This is heavily dependent upon color, size, shape, spacing and quality of the image. Within my study, I utilized culturally appropriate images from the book set *Piciryaramta Elicungcallra*, from the University of Fairbanks and Lower Kuskokwim School District, depicting traditional Yup'ik activities and events present within my local community. I selected drawn images that I felt my students would best relate and connect with. The images included events such as playing lap game, seal hunting, berry picking, and throw parties. I also included photographs of subsistence tools used for hunting for one of the tasks done with my students. Furthermore, my research invited my students to create

their own drawn images through their expressive mode that supported the presented images from the stories.

Gesture might be quickly overlooked as it is a fleeting motion that occurs in time based on the moments of meaning making that are happening presently (Kress, 2010). However, in face to face interactions, gestures carry significant meanings and a gesture might even change the meaning of the spoken words. Gestures include motions that are temporary and that offer support or stand alone in meaning making (Kress, 2010). Gesture in this research is defined as movement that accompanied by speech. For example, when encouraging a person to join you, it is common to express the words “come over here” while motioning your hand towards you. The combination of the spoken words and gesture add further meaning to the request that had been shared. What makes a gesture complex is its passing nature and if not captured on a recording, it is a momentary motion that is not a tangible artifact.

I have separated out kinesthetic movement as a fifth mode because I define this as a movement created without any use of spoken language. Kress (2010) does not address specific qualities between a gesture and kinesthetic movement, however, within this research, I found it necessary to note the different meaning potential from the movements made without the use of spoken language. For example, in the Yupi’k culture, when asked a yes or no question there are nonverbal responses that could be given. To answer yes, you raise your eyebrows up and to answer no, you would scrunch up your nose. This kinesthetic movement is different from the western culture of nodding your head yes or shaking your head no. This illustrates the cultural nature of modes. Gestures and kinesthetic movement, just like the other socially constructed semiotic modes have different meanings in different cultures.

The function of a mode and the process of utilizing the semiotic resources are closely related to my research question: How do 6-8 grade students co-construct meaning when doing tasks that incorporate culturally appropriate images? All modes of learning have the capability to interact together in a social process of meaning making. Kress (2010) argues that “different modes offer different potentials for meaning making” (p. 79), which requires intentionality in utilizing a mode or modes.

Language as a tool.

One available design that is accessible when constructing meaning is language. Some researchers have argued that language, spoken or written, is most influential to reasoning and meaning making “as a cognitive tool, language enables actions to take place between and within individuals” (Storch, 2017, p. 72). This means that language is one of many key tools when socially constructing meaning. Language, therefore, is being utilized as a tool to construct meaning. For example, when learners collaborate through dialogue, content and language is processed, resulting in the construction of meaning (Swain, 2000). Lantolf, Thorne, and Poehner (2015) address two functions of language: as *inward* language used when thinking and *outward* language used socially. Inward language could also be understood as the process of private speech “defined as an individual’s externalization of language for purposes of maintaining or regaining self-regulation” (Lantolf et al., 2015, pp. 210-211). Storch (2017) also explains private speech as “transforming our thoughts into words” resulting in a verbal artifact (p. 72). Private speech is used by learners for a number of different purposes. Private speech is based on the affordance of the learner using language in this way to problem solve, comprehend and overall make meaning (Lantolf et al., 2015). Outward language can be understood as social communication used among more than one person (Lantolf et al., 2015). Within this research, I

am connecting outward language to collaborative dialogue according to Swain (2000).

According to Swain (2000) “collaborative dialogue is dialogue in which speakers are engaged in problem solving and knowledge building” (p. 102). This means that language is functioning as both the mechanism of communicating with others as well as developing meaning collectively.

In further explanation Swain (2000) shares:

Language, as a particularly powerful semiotic tool, mediates our physical and mental activities. As a cognitive tool, it regulates others and ourselves. And, as we have seen it can be considered simultaneously as cognitive activity and its product. (p. 104)

Collaboration and the interaction among learners provide opportunities for learners to use language as a tool to further construct meaning (Swain, 2000). This means that educators should go beyond lectures and to utilize language as a semiotic process of collaborative discussion, so that students can use language as a resource in the design of new meaning.

Vygotsky’s sociocultural theory can be applied to the process of learning a new skill such as learning to sew a *gaspeq* on a sewing machine. Language would be a key resource used when explaining the different parts of the machine. The process of what should be sewn first might also require additional explanation as well as modeling how to use the sewing machine safely. With the support of discussions regarding the task from a skilled mentor, one can develop a stronger ability for the task. Through collaborative dialogue and moments of private speech, the learner can use language as a tool while making meaning. Eventually, the learner could then use their acquired abilities to teach someone else by demonstrating what they have learned and again using language, socially to share their knowledge with others. The leader would use language, gestures and demonstration to coach someone through using the sewing machine. For example, they could remind the learner how much pressure to put on the foot pedal when sewing a curved

section of material. In this way, two people who are not experts in sewing could figure out the functions of the machine through their modes of meaning making. When we collaborate with others, we are constructing meaning of information as well as responding to check our understanding through a complex meaning making cycle.

Multiliteracies: designing.

The next phase in the design model is the *designing* phase, which is when the learner is constructing meaning and transforming knowledge (Cope & Kalantzis, 2009, p. 177). The designing process allows for each designer to apply their own sources of skills and acquired knowledge to construct a new interpretation. For example, the learner can take their known skill of weaving a fishing net and utilize their skills when determining how to construct a woven storage bag that is light and strong for collecting subsistence resources from the tundra. Within my study, I am utilizing culturally appropriate images to support student language production to develop meaning. The intention is that these images will support student interest and ideas to be shared in the process of socially constructing meaning for each image. There is a process involved where the designer must critically engage with their available designs, in this case, culturally appropriate images, to construct a new perspective that might result in a new development of meaning making. Clear steps do not define this process of meaning making; rather, it is the process that the learner makes as a designer of their own knowledge, which leads them to the process of transformed knowledge.

Multiliteracies: The redesigned

The final phase, *the redesigned*, represents a new understanding that has been made as a direct result of designing process (Cope & Kalantzis, 2009, p. 177). It is “the traces of transformation that are left in the social world” which become new available designs for others

to learn and draw from (Cope & Kalantzis, 2009, p. 177). This is the knowledge or information that is a result of the deep collaborative thinking that took place throughout the designing phase. Continuing the comparison to the above example, the newly developed woven bag designed for carrying large amounts of supplies, can be used by others as a new model. When learners create and design through the process of meaning making, the resulting outcome is a redesigned experience.

For example, when considering the example of learning how to use a sewing machine to sew a *gaspeq*, the learner had now developed a new understanding for a new method of creating this garment. By using the available designs such as the skill of hand sewing, and knowledge of fabrics, as well as the experience from other people, the learner is able to begin the designing process. During this designing phase, language is used as a tool to support meaning making. When the learner is able to design, the learner can apply their semiotic resources to further develop their understanding which internalizes their meaning supported by their available designs. As a result, this learner has now developed new meaning for a similar skill of hand sewing, but now with the use of a sewing machine.

The social process of meaning making present in multiliteracies offers critical relevance to my first research question: How do 6-8 grade students co-construct meaning when doing tasks that incorporate culturally appropriate images? Through the use of multiliteracies, I am opening up the opportunities for students to apply as well as create and develop their knowledge throughout their meaning making process. Furthermore, multiliteracies welcome the use of multiple modes of making meaning. Within my study, it is my interest to observe these multiple ways that students self-select their processes to create meaning.

Tasks: Teacher as a Designer

According to Ellis (2003) “a task is an activity which requires learners to use language, with the emphasis on meaning to attain an objective, and which is chosen so that it is most likely to provide information for learners and teachers which will help them in their own learning” (p. 9). A task is a *workplan* where the teacher sets up situations that require the learners to exchange their ideas and process their thinking through the use of their linguistic resources (Ellis, 2003, 2017, Omaggio-Hadley, 2001). The term workplan is used to represent the teaching intentions that the task follows, much like a lesson plan described what will be covered throughout a class (Ellis, 2003). Figure 2.1 illustrates the four major characteristics of a task.

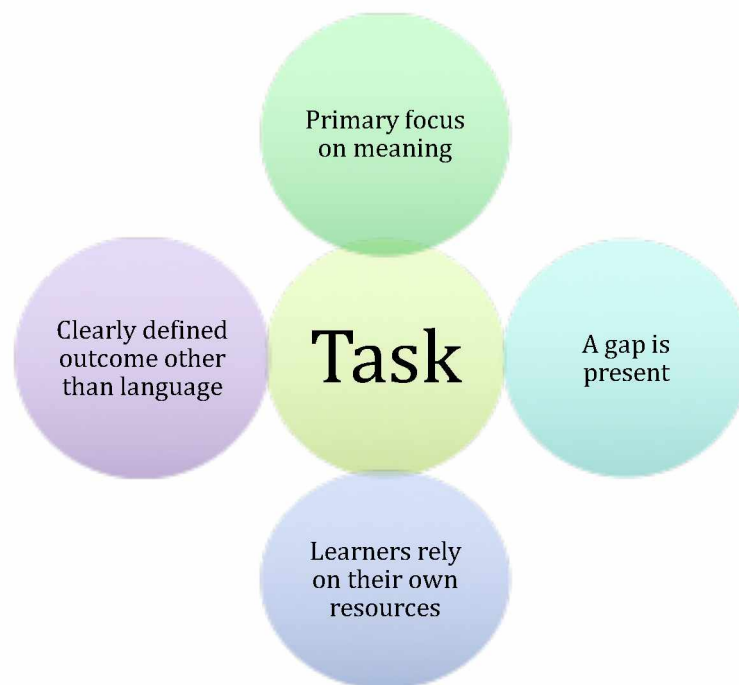


Figure 2.2: Parts of a task adapted from Ellis (2009) and Ellis (2017)

Clear outcome.

The first characteristic of a task is a clear outcome other than the linguistic features alone (Ellis 2003, 2009, 2017). Task can therefore serve a larger purpose for learning focusing on real-

world application (Ellis 2003, 2017). The intention of a task is not a grammar lesson, rather, the achievement of an overarching goal where language was used in the making of the product. For example, a teacher could develop a task for students to develop a storyboard of six different frames surrounding the topic of hunting and gathering. The students might only be given two frames to begin the task and must develop the remaining four frames. The design of this task is to order the information that was given and then engage in collaborative discussion and problem solving in order to decide on the remaining frames of the story. The learners have been set up to utilize their social-semiotic resources to construct meanings to develop this final product of a complete story. The students would use spoken language, gestures to communicate their ideas as well as tools to create the illustrations. They might also apply their own personal experiences to construct deeper meanings. This is a critical part of a task because it invites the use of cultural knowledge, world knowledge, and student use of their own funds of knowledge, all while applying their linguistic resources to construct meaning.

Tasks can be categorized as either *unfocused tasks* or *focused tasks* (Ellis, 2017; Ellis & Shintani, 2014). An unfocused task is when the learners are allowed to use language openly to engage with linguistic features as they occur (Ellis, 2017; Ellis & Shintani, 2014; Lyster, 2007). This design allows for organic language use where learners utilize a range of forms to support their meaning making. Focused tasks are planned for the learners to utilize an intended language feature (Ellis, 2017; Ellis & Shintani, 2014; Lyster, 2007). According to Lyster (2007) form-focused tasks require “pre-planned instruction designed to enable students to notice and to use target language features that might otherwise not be used or even noticed in classroom discourse” (p. 44). The value of focused tasks is drawing the learners’ attention to a language feature that they originally were unaware of or are currently in the process of mastering. This

study utilized unfocused tasks requiring students to sequence images, compare and contrast image as well as create new illustrations. The students organized a series of illustrations based on the information that was visually represented. The students also compared and contrasted details within specific illustrations to identify significant features in multiple tasks. Another task allowed the students to develop additional illustrations to create a fully developed story.

A gap is present.

Second, in task-based language learning, it is important for the learners to overcome a *gap* in either in the information provided, their opinion or in their interpretation of meaning (Ellis 2003, 2017; Ellis & Shintani, 2014). There are three different kinds of gaps used in this study: *information-gap*, *opinion-gap*, and *reasoning-gap*. The *information-gap* is when learners share missing information with others in the group to develop a deeper understanding (Ellis & Shintani, 2014). For example, in Task 3, each student had part of a story that the others could not see. The students needed to orally share with the group what they saw so they could construct meaning of the other illustrations that they could not see. An *opinion-gap* requires learners to share their opinion typically relating to a debatable issue (Ellis & Shintani, 2014). Task 1, for example, had the students debate what the meaning of an illustration represented requiring students to share their own thoughts and opinions to support their thinking. The *reasoning-gap* is when learners develop inferences and ideas based on the provided resources for the task (Ellis & Shintani, 2014). An example of a reasoning-gap is seen in Task 4 where the students apply their linguistic resources to complete a partial story to make a complete cohesive story. Each of these gaps are utilized in this study and provide the learners the opportunity to negotiate for meaning through interactions known as comprehensible output (Swain, 2000).

Reasoning-gap will also be used throughout all of the tasks and could be emergent because it is up to the students to develop their own ideas and support their thinking.

Comprehensible output.

Research found that TBLT can support language learning through encouraging output. *Comprehensible output*, based on the work of Swain (2000) and Swain and Lapkin (1998) is very relevant to task-based language teaching. Swain (2000), first explains comprehensible input as the language learner interact with in order to recognize what they do not understand. So, it is in this way that “they need to create linguistic form and meaning, and in so doing, discover what they can and cannot do” (Swain, 2000, p. 99). Through this theory, language learners are constructing meaning in the process of constructing language. Swain (2000) further explains output as “opportunities to use the target language” while also encouraging the learners to process what is being said by others (p. 99). While a speaker produces language, it is not just the production of words, rather, there is a synchronized process of interpreting for meaning while developing a linguistic response to communicate meaning (Swain, 2000). There are three functions of this collaborative output including: noticing the gap, hypothesis testing, and the metalinguistic function (Swain, 2000). It is through these functions that learners might identify a *gap* in their language or content that is being worked on and they are able to experience opportunities for meaning making (Lyster, 2007; Swain, 2000). One study performed by Swain and Lapkin (1998) found that through the use of tasks, dialogue can be used as a tool for constructing meaning as well as form. I believe this form of output is a safe way for learners to recognize what areas they are still questioning as well as a process and construct meaning.

Use of learners' linguistic resources.

The third part of a task includes learners utilizing their own linguistic resources to perform the task (Ellis, 2017; Ellis & Shintani, 2014). It is up to the learner to consider their previous experiences, and their linguistic knowledge when communicating and constructing meaning. The teacher is not providing a set designed language structures for the students to produce, rather, it is the process of the task where the language learners determine the most coherent way to communicate and complete the task. This also requires the learners to cognitively process language through different methods such as: listing, ordering, comparing, problem solving, sharing personal experiences, and creative tasks (Ellis, 2003; Ellis & Shintani, 2014). The task types can be seen in Table 2.3 below:

Table 2.3: *Task Performance Classification* (Ellis, 2003, p. 10; Ellis & Shintani, 2014, p. 137)

Task Classification	Description
1. Listing	the outcome is a compiled list
2. Ordering	requires sorting, grouping or categorizing by class and supported reasoning
3. Comparing	requires the identification of similarities and differences based on reasoning
4. Problem Solving	evaluating and rationalizing through the use of logic and
5. Sharing personal experiences	applying funds of knowledge as well as personal connections that connect to the task
6. Creative tasks	a project involving multiple steps that include a number of other task qualities

This study focused on the task classification of ordering culturally relevant images, comparing information, problem solving missing information, as well as the application of personal experiences to support meaning making. For example, if the students are given a collection of tools that range from subsistence hunting items to electronic tools and the directions were to identify three groups, the student might utilize item selection as well as classification, and reasoning to determine the groups. Task-based teaching encourages learners “to treat

language as a tool for making meaning rather than as an object to be studied, practiced and learned” (Ellis, 2017, p. 111). When considering all of these task classifications, it is prevalent that language is a key semiotic tool that is used when constructing meaning.

Focus on meaning.

This leads to the fourth part of a task where the main focus is on meaning (Ellis, 2003). Tasks often utilize collaborative work as a way to facilitate meaning making, yet not all tasks require collaborative group interactions (Ellis, 2003, 2017; Ellis & Shintani, 2014). When students to work with others, they strive to understand what their partners are saying rather than focusing their attention only on their use of grammatically correct language. Ideally, it is through this process that students construct meaning and are additionally becoming more aware of the necessary form of language used to accomplish the task (Ellis, 2003, 2017; Ellis & Shintani, 2014).

This study focuses on meaning-making interactions through task. Tasks were specifically designed to require collaboration, with the expectation that meaning making would take place primarily through the linguistic modes (Ellis, 2017). A task can “develop learners’ communicative competency by engaging them in meaning-focused communication” based on the possible interactions that take place within the task (Ellis & Shintani, 2014, p. 135). The cultural content used in this study was intended to provided information that was relevant to the students by drawing on their cultural funds of knowledge. Additionally, the structure and outcomes of the tasks were selected in order to engage my students in the design cycle of multiliteracies (Cope & Kalantzis, 2009; New London Group, 1996).

Conclusion

This chapter has explored the literature supporting my study on meaning making through tasks, I have discussed the larger concepts of *multiliteracies* (Cope & Kalantzis, 2009; New London Group, 1996), and *sociocultural theory* according to Vygotsky (Lantolf & Thorne, 2006). I then explained the interwoven connections that the *multimodalities* (Jewitt, 2011; Kress, 2010), and *funds of knowledge* (Moll, 1992) have throughout the design cycle (Cope & Kalantzis, 2009; New London Group, 1996). Finally, I discussed how *task-based language teaching* (Ellis, 2003, 2017) is the instructional design that I used to shape my students' meaning making. These theories are grounded in the belief that social interaction encourages the construction of meaning. The next chapter presents the process for conducting this research and the steps I took in collecting and analyzing my data.

Chapter 3: Research Methodology

One of the largest overlapping areas of need I see in my students is in listening and reading comprehension. When we construct meaning we are building an understanding to comprehend information. Comprehension is an immediate need of my students as they are approaching high school. Both comprehension and expression are critical to my students' future success in school and beyond.

Research Questions

My study will focus on my students' methods of meaning making and how they collaborate as a group. When constructing meaning, it is not an isolated unit of instruction; rather, it should be integrated into the student's language and content learning. I am interested in identifying any significant patterns that might occur during collaborative dialogue among my students and myself. I am curious about my students' abilities to comprehend meaningfully and share out their understanding with others through the use of culturally appropriate images. I am interested in using culturally appropriate images to trigger my students' funds of knowledge. My research question states: How do 6-8 grade students co-construct meaning when doing tasks that incorporate culturally appropriate images?

Study Design

My study is categorized as teacher action research (TAR) using qualitative data points (Mills, 2018). This study also follows the constructing grounded theory (CGT) which is a flexible approach to analyzing the data that is collected. Throughout the course of two months I collected data through structured activities, observations, student artifacts, and teacher journaling. With these data, I was able to identify patterns and meaningful occurrences, which has steered my teaching.

Teacher action research.

Teacher action research (TAR) is a powerful tool for educators. The use of an authentic classroom for the collection of data provides for relevant classroom events for other educators to connect with. Mills shares (2018):

As teacher researchers, we are challenging the experimental researcher's view that the only credible research is that which can be generalized to a larger population. Many examples of teacher research are generalizable to other classroom settings, but the power of action research is not in its generalizability. It is in the relevance of the findings to the researcher or audience of the research. (p. 162)

As Mills references, TAR is a unique process for educators that has the power to take on many different designs. Teachers are able to question specific elements of their teaching and student development to critically analyze these interactions. TAR is a professional process to develop current practices in addition to active reflection of student results. It is a tool for other educators to recognize, appreciate, and possibly become inspired to perform TAR in their own classroom. Educators should observe TAR with an open mind when making applications to their own classrooms.

Table 3.1 outlines the relevance of TAR according to Mills as it relates to my process as I develop my stance as a researcher. Mills (2018) addresses that TAR "is largely about developing the *professional disposition* of teachers, that is, encouraging teachers to be continuous learners-in their classrooms and in their practice" (p. 17). Mills is saying that effective teachers often practice to build in self-reflection following a lesson or unit of study. TAR goes beyond self-development and accounts for similar studies that relate to the focus, addresses specific and unique data, and the analysis fuels the development of an action plan. It is critical for all

educators to reflect on their practice with intentions to make adjustments that will offer improvements in best teacher practice as well as student development. During my study, I made the time to review my teaching so I could make informed decisions about my own practice. I would take 15-20 minutes after school to process my day and write notes to myself on sticky notes or in a journal that I kept close by. This would include thoughts about what I should continue doing as well as any adjustments necessary for greater understanding by my students.

Table 3.1: *Elements of TAR in Relation to my Study (Mills, 2018)*

Characteristics of TAR According to Mills	Characteristics of TAR in my study
Reflective stance	I would build in time each week for reflection that supported and informed my teaching.
Focused on the students	It was up to me to determine what I would conduct my research on as well as make necessary adjustments to fit the needs of my students.
Dynamic and Cyclic process	Most importantly, TAR supported my analysis through a cyclic process on my students' comprehension skills with structure and purpose.

TAR is the most appropriate approach to my study as I am focused on the work of my students and classroom. I recognized an area of need while conducting a lesson through the program *Visualizing and Verbalizing* (Bell, 2007). The students were struggling to connect with culturally irrelevant images resulting in a lack of connection. I have the ability through TAR to apply one of my district's initiatives of culturally responsive teaching into my research. I wanted to determine if culturally appropriate images would support my students' abilities to work collaboratively to build comprehension.

TAR also offers me control as an educator to ensure my research is *credible*, *transferable*, *dependable* and *confirmable* (Mills, 2018, pp. 153-156). According to Mills, TAR

must reflect true evidence and results from the classroom. To maintain credibility teachers can collect data over a length of time and collect multiple data points through student samples, video recording and audio recordings (Mills, 2018). When a study is transferable, the researcher will share purposeful details regarding the study to inform others who might be interested in producing a similar study (Mills, 2018). The research must also be dependable, meaning that the findings reflect similar results that other professionals are also recognizing to be true (Mills, 2018). Confirmability is the final element that helps support the research trustworthiness. This is when the researcher recognizes and addresses any biases that could alter the data (Mills, 2018). It is important to researchers to reflect throughout the duration of data collection to help support the confirmability of the work.

In my study, I maintained internal validity, trustworthiness and credibility through the use of continual teacher self-reflection and observational reflections through the form of a TAR journal. This included notes written down on sticky notes throughout the day as well as reflections throughout my research journal. TAR is identified as being valid or successful, broadly, by looking at the designed intervention(s) put into action and determining if the data collection provided a solution to the identified need (Mills, 2018). Additionally, the more reflections made throughout the whole process of researching will support my data analysis. Finally, triangulation of my data will allow for overlapping of points and patterns found throughout the research (Mills, 2018). I structured my data points to include multiple modalities: collaborative dialogue, written artifacts, and drawn artifacts. It is through these multiple types of data that I can develop meaningful conclusions and interpretations.

According to Mills (2018), TAR is based on the specific needs of a classroom. There are four main parts included in TAR: the identification of a need in a class, the process of data

collection, analysis of data and observations, and finally the action plan that is in response to the issue (Mills, 2018, p. 27). Mills (2018) identifies this process as the *dialectic action research spiral*, seen in the adapted Figure 3.1, where there is a continuous cycle moving through these four stages to support constructive growth (p. 26). The interesting aspect about these four steps is that it is never defined in final terms, rather the cycle keeps flowing into the next stage as well as cycling backwards when needed. As a teacher action researcher, I was most effective in my practice by monitoring and making adjustments in my class through the use of these identified steps.

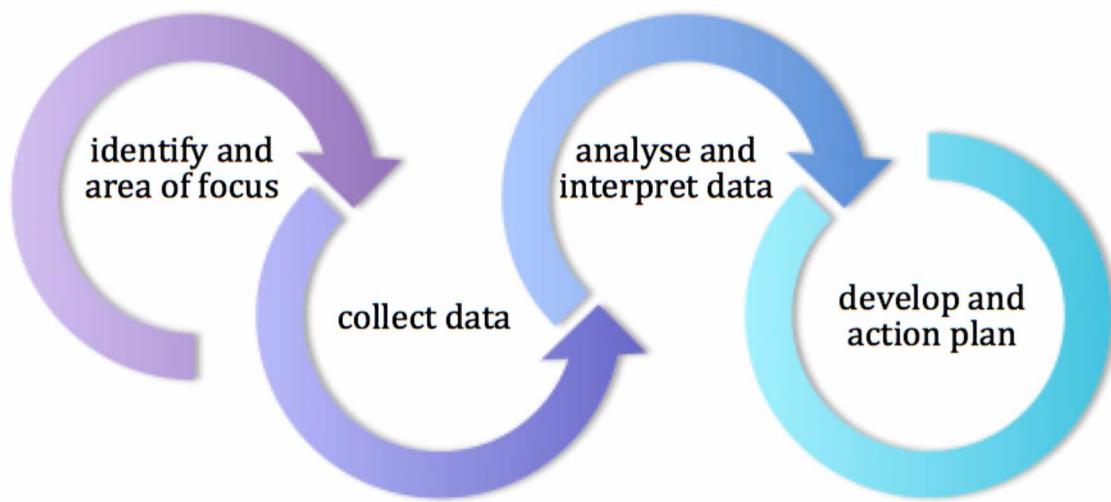


Figure 3.1: The dialectic action research spiral

My study follows TAR because throughout my practice I made a plan, collected data, developed modifications, and considered adaptations to my teaching as I worked with my students. I was not restricted in by a rigid structure; rather, I had the ability to make appropriate adjustments that were meaningful and necessary for my students.

Constructivist grounded theory.

My study also follows Charmaz' (2014) *constructing grounded theory* (CGT), an analytic framework. According to Charmaz (2014) CGT incorporates "systematic, yet flexible guidelines for collecting and analyzing qualitative data to construct theories from the data themselves" (p. 1). CGT provides researchers a cyclic and interactive process where the researcher can travel between data collecting and data analyzing. This allows for the data to follow the social interactions that take place in teacher action research. Charmaz (2014) emphasizes that grounded theory is a tool to inform action research, so no two research designs are constructed the exact same way. This process is interactive with the data through the use of coding, memo writing, and theory sampling (Charmaz, 2014). Ideally, the researcher is able to develop an analysis that is founded on the interpretations made on the data. It is through these steps where I have been able to critically view my data and pose written memos to process my multimodal data. I have the ability to openly review the patterns and trends that occur and categorize them according to what I see rather than fitting it into a previously developed theory.

There are a number of processes that make up Charmaz' (2014) process of CGT. Table 3.2 describes the actions many researches make while following the process of constructing grounded theory in addition to how I reflected on each action in my own research.

Table 3.2: *Elements of CGT Actions in Relation to my Study (Charmaz, 2014, p. 15)*

Grounded Theory according to Charmaz	Grounded Theory as it relates to TAR
Conduct data collection and analysis simultaneously in an interactive process	I collected data through audio and video recordings as well as student artifacts and teacher journaling
Analyze actions and processes rather than themes and structure	After transcribing my data, I then reviewed it line by line and categorized it with an appropriate action
Use comparative methods	During the process of coding, I identified similar interesting trends occurring throughout the data
Draw on data (e.g. narratives and descriptions) in service of developing new conceptual categories	Based on my specific line by line codes, I then analyzed for patterns that reflected interesting characteristics of my research question
Develop inductive abstract analytic categories through systematic data analysis	Based on the analysis and memos I categorized areas of interest through my data
Emphasize theory construction rather than description or application of current theories	I maintained an open mind as I reviewed my data and allowed the data to tell the story rather than searching for current theories within my data
Engage in theoretical sampling	I identified different multimodal meaning making moments that were critical to the research question
Search for variation in the studied categories or process	I reviewed the identified multimodal meaning making moments and coded data multiple times to identify additional qualities beyond my original codes
Pursue developing a category rather than covering a specific empirical topic	I focused on the multimodal meaning making moments relevant to my research rather than other features that were also present yet less specific to my study

Once participants have been established and a research question has been formed, the phase of data collecting and memo writing begins. CGT thrives in the development of ideas, questions and comments. Simultaneously, the data can be transcribed and analyzed for the development of patterns and questions through memo writing. A key characteristic of Charmaz' (2014) theory is to analyze the data for patterns and categories rather than attributing the findings to an outside source. This process is identified by *constant comparative methods* where data is

continually compared with other data, codes, and even categories (Charmaz, 2014). Ideally, you “try to see [the data] as representing one view among many” rather than naming themes throughout the data (Charmaz, 2014, p. 132). Wilson (2008) addresses this same idea seen in the research process stating, “how you have changed and what the whole process has done to you” (p. 123). By being present with my research I can observe the subtle patterns that have developed across each task. I believe this comparative approach grounds the developed theories in the data, thus creating an authentic and purposeful analysis.

It is challenging to draw substantial conclusions from data that have not been processed or coded. For this reason, I utilized Charmaz’ (2014) method of *grounded theory coding* where the cyclical process of identifying features within the data came directly from the points observed from the data itself. Each data point is observed meticulously before it is then carefully reviewed for the observable occurring trends. While I analyzed my data, I saw patterns and would carefully code them. Without the time and effort put into methodically coding my data, I would have faced challenges when naming my key observations. I found the coding process beneficial as it allowed me to construct multiple ideas for categories before identifying the exact patterns that emerges in my work.

Charmaz (2014) considers an additional process for researchers to consider, especially when faced with perplexing findings. *Theoretical sampling* allows researchers to develop a possible category which is then reviewed against other events present in the data (Charmaz, 2014, p. 200). In other words, the researcher develops a hypothesis and tests it against what is presently seen in the data to determine if their theory is correct.

The process of focused coding “requires decisions about which initial codes make the most analytic sense to categorize your data incisively and completely” (Charmaz, 2014, p. 138).

This requires the researcher to view the data with a more *conceptual* approach, looking for ways to combine larger sections of the data. Charmaz (2014) also advises the researcher to identify more concretely what exactly the data is expressing. This leads into the next important step of *assessing* the initial codes to determine how influential those codes hold throughout the remaining data (Charmaz, 2014, p. 140). This process might appear through memo writing and questioning the data for possible categories. Focused coding is just another step in the emergent process which requires one to build upon observations, questions, and identities to create tentative decisions (Charmaz, 2014).

Researchers are able to maintain meaningful connection to their study using CGT as the analysis process unfolds (Chramaz, 2014). This quality makes CGT linked to TAR because the end outcome is a developed theory that is based on patterns that emerged throughout the study. This connection allowed me to attend to all elements of my data points and maintain a fresh view of my data. Both CGT and TAR allow the researcher's interpretations to be constructive when developing a connection to the theory that emerges.

Setting

This study was conducted at Nelson Island School in the community of Toksook Bay, Alaska. Toksook Bay is also referred to as Nunakaulyaq, a small coastal village located in southwest Alaska. This village is largely made up of families who live off of subsistence hunting and gathering. The seasons determine when specific animals are hunted and when particular vegetation is harvested. In addition to subsistence living, 31.0% of the population work for management, business, science and arts related occupations (United States Census Bureau, 2010). There are 25.9% of people working within service, 24.9% working for sales and offices, 13.2% working for construction or natural resources, and 5.1% working for

transportation and material moving according to Selected Economic Characteristics (United States Census Bureau, 2010).

The village has two main general stores within it that supply general amenities as well as a Multicultural building where public events are held. Toksook Bay also has a sub-regional clinic, a part of the Yukon-Kuskokwim Health Corporation, serving the village and surrounding villages. Toksook Bay was established in 1965, and according to the 2010 census, the village population was 590 total people (United States Census Bureau).

School.

I began living and teaching in this community in the fall of 2015. The school population is about 180 students from kindergarten through grade 12. I am the Elementary Special Education teacher for the Nelson Island Area School. While my job title includes Elementary, I support students from Headstart through high school. I also work with a second Special Education teacher who focuses on working with the secondary level students, yet she also supports students throughout the other grade levels. As a Special Education Teacher, I focus on targeted areas of needs for each of my students. Each student has an Individualized Education Plan (IEP), which I refer to when working with my students. An IEP is a legal document, which is created to support educational success for a child who has a disability. It is critical that each document is upheld with fidelity for each student's needs as well as the legality of each document for each child. The focus of all IEP documents is to determine the best educational plan for a given child, which results in improved learning and student success.

Process of special education.

There are a number of steps involved to determine if a child qualifies for an IEP. First, each state is mandated to adhere to the laws stated in the *child find* policy where the state follows

procedures to seek out and support children with disabilities through the development of an appropriate plan of education and related services (IDEA, 2004). It is during this process where parents request that the *child find* system support their child with an evaluation or school professionals could request for an evaluation or referral to learn more about a child's abilities (Prince-Ellingstad, Reynolds, Ringer, Ryder, & Sheridan, 2000). It is also common for an intervention team to develop at this stage to review what measures have been made to support a child so far as well as additional classroom observations. Parents must be involved and give consent to the school before any evaluations are done. Upon receiving consent, the team begins the process of evaluating the child within the specific area of difficulty (Prince-Ellingstad et al., 2000). The assessments that are typically used within my district are norm-referenced to ensure reliability. A norm-referenced test compares the test results to a large group of test takers at the same age or grade level to determine where they fall among others at their academic level. It should be noted that norm-referenced tests do not account for all cultural diversity and language barriers and should not be the only deciding factor to qualifying or denying special education.

The team will then take the results from the assessment, classroom observations, and any other significant data to review them with the parents and an evaluation report is completed. As a team, they determine if the child has a disability as it is defined by IDEA (2004). Next, the team has 30 days to develop an IEP that meets the needs of the student (Prince-Ellingstad et al., 2000). The parents must have adequate notification for attendance of this meeting as well as a common location for the parents and school to attend. Additionally, the parents must understand the purpose of the meeting as well as know who will be attending the meeting.

Once the team has held the IEP meeting reviewing the student goals, objectives, accommodations and modifications, the parents must give consent for Special Education

placement before any services can be made (Prince-Ellingstad et al., 2000). If the parents disagree with the placement, a mediation team can be assembled to discuss the areas of concern. The school then must measure the progress that each child is making towards his or her goals through a progress report to determine achievement level and possibly the need for further modifications of the goals (Prince-Ellingstad et al., 2000). This is done quarterly for the students that I service. Every year the team is required to formally meet at least once to review this progress where changes, suggestions and concerns are shared. Every three years, or sooner, the team then must reevaluate the child to determine if their placement is still necessary (Prince-Ellingstad et al., 2000). It is important to note that when “done correctly, the IEP should improve teaching, learning and results. Each child’s IEP describes, among other things, the educational program that has been designed to meet the child’s unique needs” (Prince-Ellingstad et al., 2000, p. 5).

Classroom.

Many of my younger students receive additional support with speech and language, as well as general academics including math and communication. When focusing on my middle to high school students, there are more specific areas of instruction that are targeted in a Specific Learning Disability, which is unique to each student’s needs. In addition to the support of a second Special Education teacher, who focuses on the secondary students, I also work with a team of four other paraprofessionals. We all work together in supporting the specific needs of each student with an IEP. It is my responsibility to ensure that the activities and work that the paraprofessionals utilize is allied with the appropriate goals for each student. It is also imperative that I meet with each aide to discuss the progress that they are making. I will also observe how these interventions are going while I am instructing my own group. This helps me

determine what I might need to adjust for the students to stay on track towards accomplishing their goals. When appropriate I provide informative assessments such as a Phonics Survey or Reading Running Records from the Core assessment probes (Diamond & Thorsnes, 2018).

These assessments help me keep documentation of my student progress.

It is common for multiple groups to be working simultaneously in my classroom. I have two kidney-bean shaped tables in my classroom and two individual desks. It is common for two teachers to work at one kidney table if they are teaching one student at a time. Sometimes there are too many groups working at the same time in my classroom, causing distraction and unproductive work. This causes one group to take their students into the common space of the school or in a cubby area by the front doors. These alternate working environments are not ideal as they also cause for distractions and interruption in learning for my students.

Participants

The students that I am focusing on are from a range of grades including sixth through eighth grade during their English Language Arts Intervention class. The students make up an intervention group where they participate in the district initiative intervention program titled, *System 44 Next Generation* (2014) in addition to supplemental interventions to support each student's listed IEP goals. *System 44 Next Generation* addresses phonemic awareness, reading comprehension, spelling, vocabulary, and some foundational writing skills. According to Scholastic Education (n.d.), *System 44 Next Generation* is "differentiated and individualized instruction are achieved by the integration of multiple assessments, multiple entry points, adaptive computer technology, and targeted instructional materials and strategies" (p. 2). The book is broken up into units of similar content. Each reading might have multiple days devoted to pulling it apart, requiring readers to connect to the previous lesson. I have found during my

experience with the program that my students struggle to maintain their understanding of the provided texts causing for difficulties in completing book work within the given class work time. I work with the second special education teacher at the school to co-teach the students outside their general education class.

I introduced my study to the parents of this intervention group during my spring parent teacher conferences. Of the parents that attended their conferences, all of them signed consent forms for their children to participate in my study. However, when I discussed this same project with my students only three were interested in agreeing to participate in the study. It is my assumption that my students either felt too shy or possibly embarrassed to participate in the activities I had described. It is an unfortunate occurrence for bullying to take place in schools, especially for students with an identified learning disability. I believe my students did not want to feel further segregated their peers by agreeing to participate in this study.

From there, I created a group of three students out of the original eight. Given that the group size was now cut down to only three students, I determined the best location for my activities to take place would be my classroom rather than my co-workers classroom. The following table 3.3 highlights the students that participated in my study.

Table 3.3: *Student Demographics*

Student	Gender	L1	L2	Years in SPED	Grade Level
*Buttercup	Female	English	Yugtun	3 years	6 th
*Rex	Male	Yugtun	English	3 years	7 th
*Aubree	Female	Yugtun	English	5 years	8 th

*Student names are all pseudonyms selected by the student

The first participant is a 13-year-old female, sixth grade student with the pseudonym name Buttercup. She has attended Nelson Island School throughout the time I have taught in Toksook Bay. Buttercup is the youngest in her family and lives with both her parents and two of

her siblings. Buttercup participates in many school activities such as cheerleading, traditional *yuraq* native dancing, cross-country, Native Youth Olympics and basketball. Buttercup has a positive attitude when it comes to school and is typically excited for all of her classes. Buttercup was recommended for an IEP three years ago when she was in the third grade. Based on her current needs, assessments, and parent input, her IEP addresses the areas of reading comprehension, written expression, math calculation, and math problem solving. She is pulled out of her English Language Arts instruction to participate in a smaller intervention group along with the two other students participating in this study.

The second participant is a 14-year-old male, seventh grade student with the pseudonym name Rex. He has attended Nelson Island School during all three years I have been teaching in the community. Rex lives with his mother and four other siblings. He is the third oldest among his siblings. Rex is an eager learner for the most part at school. I have noticed that he engages well with hands on activities and has been known for his creativity with projects in his science classes. He participates in a number of extra-curricular activities including Native Youth Olympics, and Speech Club. Rex was recommended for special education when he was in the fourth grade, three years ago. I have observed him struggling with writing, reading comprehension, basic reading and fluency, math calculation and math problem solving. Based on his current assessments and progress his areas of support include written expression, reading comprehension and fluency, math calculation and math problem solving. Rex is pulled from his general ELA instruction to participate in the same intervention group with Buttercup and Aubree.

Finally, Aubree the last participant is a 13-year-old female, eighth grade student. Aubree grew up in Toksook Bay and lives with her parents and six of her siblings. Aubree is not the most enthusiastic student when it comes to school, yet she tends to never be late to school. She

does not participate in any extracurricular activities at school. She enjoys spending time after school visiting with her friends and sometimes teachers. Aubree was referred for Special Education when she was in the third grade. Her current areas of need include basic reading, reading comprehension and fluency, math calculation and math problem solving. Aubree participates in a smaller ELA intervention class along with Buttercup and Rex.

Instructional Procedures

As a Special Education teacher, my teaching routine is structured with planned activities and goals, yet I always remain flexible with any changes that might influence my plan. This particular group that I focused on for my study is a 105-minute, co-taught class with eight students. The group meets at my co-teacher's classroom, which is located near the middle school classrooms. This room does not have a door or fourth wall that separates it from the busy hallway on the other side. We have placed wheeled shelving units in an effort to create a closed space for learning, yet there were new challenges that we faced each day and learned to stay flexible. Each week, I sit down with my co-teacher to plan the coming week's lesson objectives and goals based on the previous week. We use our student goals, as well as the highlighted Common Core (National Governors Association Center for Best Practices, & Council of Chief State School Officers, 2018) objectives from the System 44 teaching manual to support our planning. Figure 3.2 is a description of a typical class routine.

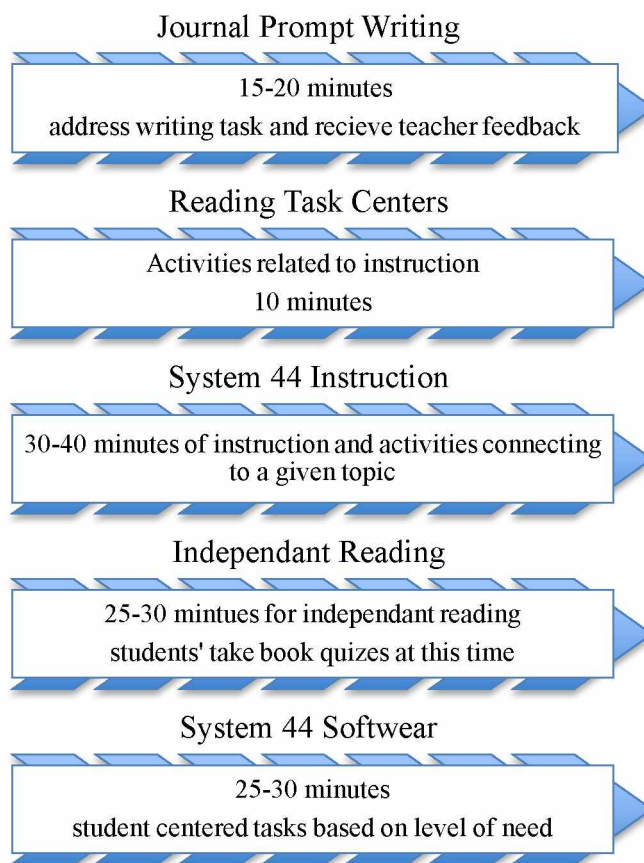


Figure 3.2: English intervention class routine

Given that the class time is so long, the class is structured into five different sections. First the students begin the class by responding to a journal prompt that is written on the board. At the beginning of the school year, the students were filling in missing parts of a sentence such as adjectives, nouns and verbs. My co-teacher and I then determined we would provide sentence stems for the students to complete in their journals. Eventually we determined our students were ready to respond to a prompt that allowed for student creativity as they wrote. We developed an expectation of completing at least four sentences before showing a teacher for feedback. The students would then make adjustments with our support if necessary. When students finished their journal work they would transition into what we called *reading task centers* this included a rotating cycle of interactive games and tasks that offered practice with vocabulary, reading, and

grammar. For example, some items that the students worked with included Rory's Story Cubes, Scrabble Slam, and Bananagrams to name a few. We rotated these activities as they fit the needs of our teaching in addition to keep our students from becoming bored.

We would then transition the students into either whole group or small group instructional time. Based on the content we would be teaching and how the students were behaving would determine how we would lead this section of class. As a whole group we could engage in more co-teaching and when we split into two groups we were leading our groups independently. We would create any necessary modifications to the System 44 lesson and lead the students through the content.

Upon completing the lesson, we would have the students transition into independent reading for about 20 minutes. The System 44 program provides a unique set of books designed to overlap from the instruction as well as the computer software work. Students were allowed to sit on the floor and read their books for a modified seating arrangement. We also occasionally used cushion stools as another alternate seat. My co-teacher and I determined a need for more structure for independent reading, so we developed reading bookmarks for fiction and nonfiction texts. The students learned how to pick the appropriate bookmark and answer the guiding questions as they read. This bookmark was then reviewed with the student before taking a book quiz using the System 44 program. If a student was unsuccessful in completing the bookmark, I or my co-teacher would offer support and encouragement as they attempted to book a second time. Once the student passed the book quiz it went towards their total books being read for that quarter of the year. Each quarter, we required six total books be read and have a passing book quiz.

Finally, the students would rotate into the System 44 Software to continue their individualized instruction based on their placement. Each student takes the *Scholastic Phonics Inventory* at least three times a year, which assesses their decoding and fluency and places them into the appropriate level of instruction (Scholastic Education, n.d.). The students' practice spelling, word knowledge, reading fluency, and writing throughout the use of the software. In an effort to build up motivation and engagement in the software, my co-teacher and I developed a visual chart for students to post the number of words that they have read through the System 44 program. Each level they pass as well as each independent book quiz that they pass adds words to their total words read. The students can look up this total and independently modify their running number on the board.

Research Procedures

There were a number of things I needed to prepare before conducting my research to plan for the instruction ahead. Leading up to my research I developed consent and assent forms for the students and parents to review and sign. Three out of the eight students from my small groups agreed to participate in this study. From this information, I determined we would work at the kidney-bean shaped table closes to the front door of my classroom because there was additional space for the student to move around. I also determined that I would position my camera and tripod about three feet away from the table angled down at my students' faces. I had thought that I would leave that camera there throughout the whole recording process, but I found myself pulling the camera off my tripod to walk around capturing the movement of my students as well as the manipulation of the resources they were using.

Student interviews.

Before starting my tasks, I pulled each student aside to talk through a semi-structured interview to learn more about their thoughts as learners. The interview questions acted as a guide for my discussion with my students, which allowed me to dig deep with each of my students as well as concentrate on the task. The focus of my questions revolved around their feelings as a reader and writer. The purpose of the interviews was to get each student thinking about their own skills and abilities as well as informing me how my students felt while participating in class. I reassured each student that there were no wrong answers to the questions that I would ask them but to try and answer each question the best way they could. When I noticed my student hesitating to answer, I would ask them a question or pose a statement of what I thought they were saying. Also, this setting was their first time sitting with the video recorder on as well as the audio recorder. The use of recording devices might have added some additional pressure for the students as I focused directly on them.

Interviewing my students offered a one-on-one setting for the students to discuss how they feel as a reader without any pressure from their peers. Each of my students connect with reading slightly differently. Buttercup shared “when I was starting to read, teacher was listening to me to read” and “sometimes I started to get wrong, but I tell my students to help me how to read.” Buttercup’s response leads me to believe that she will challenge herself to read and knows that she can ask for help when the reading becomes difficult. Later in our conversation, Buttercup shared that she only feels a little bit confident as a reader. She explained, “If I read, I think I want to read little bit. I read first and then put it away for a bit and read it back again.” I asked her a clarifying question “so you don’t like reading all the time? You like reading some of

the time?” to which she agreed to by nodding her head. It is for these reasons I believe she likes reading in smaller groups to have the support from her peers and teacher.

When I asked Rex about reading, he focused on one specific book that he recalled from his independent reading from class. He was able to share with me that the heroic character in this particular story is what made it memorable for him. When I asked him “What do you think helps you remember that story, *Ant Attack*?” he replied, “someone was going to save the world from the ant.” Rex also felt like a great reader and was honest with me when expressing his fear of reading out loud. He shared “I like reading in my mind” and when I asked him about reading out loud to me, he said “scary.” More specifically if he is just sitting one on one with a teacher, reading out loud, is what he described as being scary. It is also notable that he feels like he is able to learn when others are reading and he follows along.

Aubree explained that if she has read a story, she could then think about it to remember it. When asked how she remembers a story, she said, “eh, that’s in my mind we try to remember.” She explained later on in the interview that her eyes move on the page and she motioned her finger from left to right. She also expressed that she feels unsure about being a great reader but shared she was comfortable reading independently, out loud, with a teacher, as well as just listening. I prompted her to share the best method of reading for her and she shared “listening and reading.” To make sure I understood her response I asked, “so listening to someone else read it as you follow along?” and she responded by raising her eyebrows, meaning yes.

I was intrigued that all of my students responded with similar reasons to read; they all agreed reading is a way “to learn.” When I prompted them to share any other reasons for reading, they were unable to share a different idea. Additionally, my students’ all felt that a

picture is something that could be read. This excited me as I was designing all of the tasks around the use of culturally appropriate images. Interestingly, when I was asking the students about reading strategies, all of my students responded with a form of creating images or referring to images within the book as a way to support their understanding. Buttercup stated, “If I read, you think you’re in a book and have-...” where she pauses, and I offer “so you imagine yourself in the story” to which she agrees. Rex explains that looking at the pictures and the words are important things to look while reading. Aubree also explained when she listens to storytelling in Yugtun she is “picturing [the story]” as it is being told. These findings also lead me to believe that images and mental pictures created while reading are an important part of the reading process.

These interviews allowed me to understand my students’ level of confidence as well as their ability to articulate what reading means to them. I found that these questions allowed me to slow down as a teacher and consider how each of my students are different learners. I found my students’ responses to be informative as I structured the activities and significant in my overall findings.

Next, I designed five unique tasks for my small group of students as seen in Table 3.4 below. Each task was recorded using the video and audio recorder. In addition to that, I maintained a TAR journal that included observations as well as frequent reflections on my teaching. I designed each of my tasks using culturally appropriate images and structured each task with different meaning gaps. For instance, students were unable to see some of the images that their partners were observing. This created a gap of missing information where now the students were encouraged to use their linguistic abilities to describe and name qualities and elements of the images to help construct meaningful descriptions for their partners to listen to

and process. Another example includes having a collection of pictures and determining the sequences of the illustrations. Following each task, I developed a reflection sheet for the students to answer as a way to think back on that task. This information was also considered as artifacts that will support my findings.

Table 3.4: *Research Activities*

Time	Instructional Activities	Research Activities
Prior to starting	Inform parents about research and distribute consent/assent forms to the parents and students during or after school.	Collect the signed assent/consent forms and store them in a locking filing cabinet in my classroom until they are transported to the UAF campus.
Week 1	Interview each student to learn about students' current perspective of reading and writing.	Video Record: Aubree – 0:17:00 minutes Buttercup – 0:14:15 minutes Rex – 0:18:20 Audio Record Aubree – 16:45 minutes Buttercup – 0:13:40 minutes Rex – 0:13:45 minutes Note information each student shares for later review: 3 Documents
Week 1	Activity 1: The students will be ordering a complete sequence (OCS) of events of at least five images.	Video Record: recorder – 0:12:00 ipad – 0:17:57 Audio Record – 0:30:48 Student Journal Artifacts: 3 Documents TAR Reflections: 1/2 page
Week 2	Activity 2: The students will work in small group and negotiate to determine what image is behind their back then identify similarities and differences.	Video Record: ipad – 0:23:33 Audio Record – 0:27:24 Student Journal Artifacts: 3 Documents TAR Reflections: 1/2 page
Week 3	Activity 3: The students will work in pairs to negotiate the order of events (NOE) based on images that are not seen by their partner.	Video Record – 0:25:14 Audio Record – 0:26:54 Student Journal Artifacts: 3 Documents TAR Reflections: 1/2 page
Week 4	Activity 4: The students will negotiate if and what images (NMI) are missing from a sequential story of about three images. (Thursday) *I used four images	Video Record: recorder – 0:33:26 recorder – 0:10:58 Audio Record – 0:45:12 Student Journal Artifacts: 3 Documents Student Drawn Image Artifacts: 10 images TAR Reflections: 1/2 page

Week 5	<i>Planned Activity 5: The students will then use their own pictures (SP) to share out to the class a retelling of a specific event or experience. Students will not be required to share out personal experience. (Tuesday and Thursday)</i>	<i>Planned Activity 5: Video Record Audio Record Student Journal Artifact Copy of student image Teacher Action Research Reflections</i>
	Actual Activity: After considering the performance of Activity 2, I decided to attempt this activity again but with some adjustments to the student journaling note catcher as well as the images used for the task.	Actual Activity: Video Record – 0:33:26 Audio Record – 0:32:14 Student Journal Artifact: 3 documents TAR Reflections: 1/2 page

The illustrations used for the first four tasks came from the cultural book collection, *Piciryaramta Elicungcallra* (2014) developed at the University of Alaska at Fairbanks. The first task provided a sequential gap where the students focused on ordering 10 images pulled from the story *Angqalleq Kiagmi* written by Qaivaralria Rosalie Lincoln and illustrated by Ciquyaq Susie Moses (2013). The text was removed from the story and the students used only the details present in the images to determine what sequential order the images should be placed in. The intention was to introduce the students to observing images and working together as a group to determine a final order. Then they added their own text to each scene of the story. Following this the students reflected on the story and wrote about the events of the story from beginning to end.

The second task posed a visual gap as the students communicated what was seen in the image taped to each other's back. The students had one image taped to their back, which required the students to discuss what they saw in the images. Select images were pulled from the story *Uqiquarnariuq* written by Keggutailnguq Catherine Moses and illustrated by Ciquyaq Susie Moses (2013a). The students were seeking out similarities and differences across all three of the images used. Rex would observe Buttercup and Aubree's images with their backs facing him. The students would then rotate observing their peers' images side by side. Given the complexity

of the task, I found myself providing many verbal prompts for the students and supporting them to critically observe the characteristics within each image.

The third task used another visual gap along with a sequential gap using selected images from the story *Iqvaryaqatartukut* written by Angass'aq Sally Samson and illustrated by Ciquyaq Susie Moses (2013). Each student was given three sequential images of a nine-imaged story. The students communicated the details seen in their set before thinking of an order. The visual barriers were then removed and the story was read from beginning to end.

The fourth task included a sequential and unseen gap where students ordered four images from the story *Ciquyam Pet'qerraallra* (2013b) written by Keggutailnguq Catherine Moses and illustrated by Ciquyaq Susie Moses. Then they determined, through discussion, what scenes were missing from the story. The students then drew these missing parts to their story. The students discussed the, now complete story, before writing about the task and what the images represented.

Finally, I planned for activity five to incorporate the students bringing in an image of their own to discuss and share with the group. This plan did not occur and instead I redesigned the second activity the students participated. I selected three different black and white cultural images found from the Internet that reflected similar themes of hunting for the students to compare. The first photograph of a Bethel fish trap (1896), the second photograph was of a woman tomcod fishing (Waugh, 1935), and the third photograph was a Yup'ik hunter in a kayak wearing a hunting hat (1928). I felt my approach was not adequate and I thought I could develop alternative journal prompts and visual support that would create more success with the communication and collaboration. The students used a Venn diagram to write in their observations about their partners' image before writing about it the reflection. I found these

adjustments to support my students' interest in the task as well as developing stronger writing in the end.

In this chapter, I have provided an overview of the research methodology and the instructional procedures employed in my teacher action research study. In the next chapter I will present my data analysis and findings.

Chapter 4: Analysis

Over a two-month period, I designed five different tasks that I felt would elicit collaborative discussion and in-depth connections with the content being presented. My data collection included student-interviews, video recordings, audio recordings, written samples, and student developed drawings. I utilized the images from four different cultural books from the *Piciryaramta Elicungcallra* collection (2013). Through the use of these images, I was hoping to see and learn more about just how my student would engage in a variety of meaning-making tasks using illustrations.

First, I will describe each task chronologically and share critical meaning-making moments that emerged from the events of each task. I identified different critical meaning-making moments that connected back to my research question: How do 6-8 grade students co-construct meaning when doing tasks that incorporate culturally appropriate images? These moments were selected because the students were utilizing different modes throughout the tasks to support their socio semiotic process of meaning making. Within each task description, I describe and explain at least one critical moment where socio semiotic resources supported or limited my students' meaning-making process. Finally, I will compile my findings to describe how these social events relate to my research questions.

The Tasks

The tasks began on March 29, 2018 and the final task was completed on May 7, 2018. Tabel 4.1 lists the five tasks as they occurred in my classroom as well as lists the objectives that were expected to cover.

Table 4.1: *Order of Tasks and Objectives*

Date	Type of Task	Objectives
3/29/18	Task 1: The students ordered 10 images and placed them into a complete sequence of events. Images from: <i>Angqalleq Kiagmi</i> written by Qaivaralria Rosalie Lincoln and illustrated by Ciquyaq Susie Moses Classification: Ordering	Objectives: <ul style="list-style-type: none"> - Explain why images should be placed in particular order. - Listen to and share opinions with one another.
4/10/18	Task 2: The students worked in a small group and discussed what image was behind their back by identifying similarities and differences across all images. Images from: <i>Uqigurnariuq</i> written by Keggutailnguq Catherine Moses and illustrated by Ciquyaq Susie Moses Classification: Comparison	Objectives: <ul style="list-style-type: none"> - Identify key features of the images - Compare images by stating similarities and differences.
4/11/18	Task 3: The students worked collaboratively to negotiate the order of events based on images that are not seen by their partner. Images from: <i>Iqvaryaqaatartukut</i> written by Angass' aq Sally Samson and illustrated by Ciquyaq Susie Moses Classification: Ordering, Problem Solving	Objectives: <ul style="list-style-type: none"> - Interpret the meaning of the images based on the details of each picture - Listen and share details from the pictures
4/12/18	Task 4: The students discussed the image order and determined what images were missing from a sequential story of four images. Then they created missing scenes by drawing them. Images from: <i>Ciquyam Pet'qerraallra</i> written by Keggutailnguq Catherine Moses and illustrated by Ciquyaq Susie Moses Classification: Ordering, Problem Solving, Creative task	Objectives: <ul style="list-style-type: none"> - Interpret the meaning of the images shared - Determine what scenes are missing - Create visuals to represent missing information
5/7/18	Task 5: After considering the performance of Task 2, I decided to redo this task with a newly designed graphic organizer and new images. Images from: internet data base sources: yupikscience.org, nmai.si.edu Classification: Comparing, Problem Solving	Objectives: <ul style="list-style-type: none"> - Identify similarities between two images - Identify differences between two images - Explain the overall purpose of the items in the images

The first task incorporated ten illustrations, found in Appendix C, from the book *Angqalleq Kiagmi* (Lincoln & Moses, 2013). This task was designed to introduce the students to

observing and manipulating the illustrations. I wanted the students to work together to determine a sequential order for all ten illustrations. I anticipated the students to discuss what they saw in each illustration and argue where the illustrations should be placed in the sequence.

The second task had the students view similar images taped on their partners' backs depicting different aspects of a traditional throw party. I wanted the students to explain the illustrations so that their partner could imagine what their illustration looked like. By taping the illustrations to their backs, I anticipated more verbal communication among the students. The illustrations were from the story *Uqiqurnariuq* (Moses & Moses, 2013a), which is about the traditional practice of throw parties also known as seal parties. A throw party is an event where a family shares gifts with the community to celebrate a big event such as a birthday or first catch. Typically, when a boy has made his first seal hunt, the family will hold a seal party where the seal blubber and meat is distributed to elders and the community. The family will also give away other gifts to celebrate the success of the young hunter. It was my intention that the students would be able to identify the details across the images and use complex language to identify similarities and differences within the pictures.

The third task then combined the elements from the first two tasks. I selected nine pictures from the book *Iqvaryaqtartukut* (Samson & Moses, 2013), about berry picking. Each student received a sequence of three consecutive illustrations. Students could not see the pictures the other two students were looking at. I wanted to students to discuss what illustrations they had in front of them. Next, I wanted the students to collaborate verbally to determine how the illustrations related and establish an order for the nine illustrations.

The fourth task utilized four images from the story *Ciquyam Pit'qerraallra* (Moses & Moses, 2013b), which is about seal hunting. I selected illustrations that highlighted important

events when going seal hunting that were spread out across the story, creating narrative gaps. First, I had the students determine an order for the four illustrations. The students would then create their own drawings to fill in the gaps between the illustrations. I expected the students to discuss what they thought was missing and determine who would draw each missing scene.

The final task was a recreation of the second task. This time I used cultural images selected from internet data bases highlighting different methods of subsistence hunting. The first photograph was of a Bethel fish trap (1896), the second photograph was of a woman tomcod fishing (Waugh, 1935), and the third photograph was a Yup'ik hunter in a kayak (1928). I wanted the students to observe their partner's illustrations and determine how they were similar and different. They completed a Venn Diagram, found in Appendix N listing both partners' illustrations and how they related. The students then tried to explain to their partners what they thought was depicted behind their back before taking off the illustration. Once all the illustrations had been removed from their backs, they identified how all three illustrations were similar and different.

Method of transcribing.

The first step in analyzing my data included transcribing the audio and video data. I designed the following symbol system to support my transcription adapted from Charmaz (2014). Table 4.2 lists the symbols that were used within my transcriptions.

Table 4.2: *Transcription Symbol Meanings*

Symbol	Meaning of Symbol
(.)	Short pause of about one second
(..)	Pause of about two seconds
(...)	Long pause of about three seconds
(.5.)	Longer pause listing seconds of pause
?	Question
/	Rising of voice
\	Lowering of voice
-	ending/cutting off a word or getting interrupted
[text]	speech overlapping at the same time
(text)	description from audio and video
(<i>text</i>)	translation of Yugtun to English
dialogue_(text)	Gesture made simultaneous with dialogue
No symbol	Kinesthetic movement is made without dialogue and is described in a separate column

The first four symbols described in this table describe how I recorded the pauses in speech that occurred throughout my tasks. I found it critical to keep note of my students' pauses, as this is a possible cue for student processing and thinking time. These pauses also show the amount of time that elapsed between students' turns. It also helped me notice how much time I would allow the students to process my own questions. Next, the question mark and slashes were used to support the description of my students' tone of voice. There were times when a statement was made using a rising intonation, but it was not a question and other times when a question was asked using a falling intonation. I found that by using these three symbols together, I could accurately represent the verbal interactions. Finally, the last three symbols in the table capture additional information for the transcriptions. The dash was used to signal if a speaker

cut off their own words or if another speaker interrupted them. The brackets represented speech that overlaps with another utterance. The text within parenthesis indicates gestural descriptions from observed on the video recordings. The italicized parenthesis was the translation of the Yugtun speech. Text found within parenthesis and had a dotted underline represents the kinesthetic movement or gesturing that the student is making while speaking. Other contributing kinesthetic movement that takes place when they are not speaking will appear in the middle column of the excerpts. Additionally, the excerpts include a column showing the picture or pictures being discussed. I used colored arrows, Xs, and lines to help indicate the gestures made towards the images.








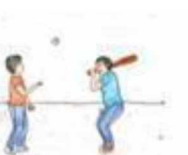


In the following sections, the tasks are described from beginning to end with critical meaning making moments explained in detail. These are telling incidents that captured meaning making moments that directly linked to the research question. These moments were critical because it captured the students using their multimodal resources as well as the application of funds of knowledge. Finally, each section includes my reflection and explanation about connections to students' meaning making.

Task 1: Sequencing Images and Developing a Story

The first day of task instruction required all three of my students to work together to develop a logical sequential order to the images from the story *Angqalleq Kiagmi* (Lincoln & Moses, 2013). The story is about a group of children participating in a common field activity called lap game. Table 4.3 shows all ten images that were given to the students to work with. The order of these images represents the final order that the students put them in. I developed a short caption which relates to each image capturing the meaning that the students made. The illustrations that the students viewed did not have any written captions present. The larger

illustrations can be found in Appendix C. The students chose their own seats at the first kidney bean-shaped table in my classroom as seen in Figure 4.1 below.

Table 4.3: *Images from Angqalleq Kiagmi*

				
Invitation to play	Setting up to play	What team goes first?	First team to hit the ball	Second team to hit the ball
				
Running across the field	The ball almost hit him	The other team will bat	Where will the ball go?	She caught the ball

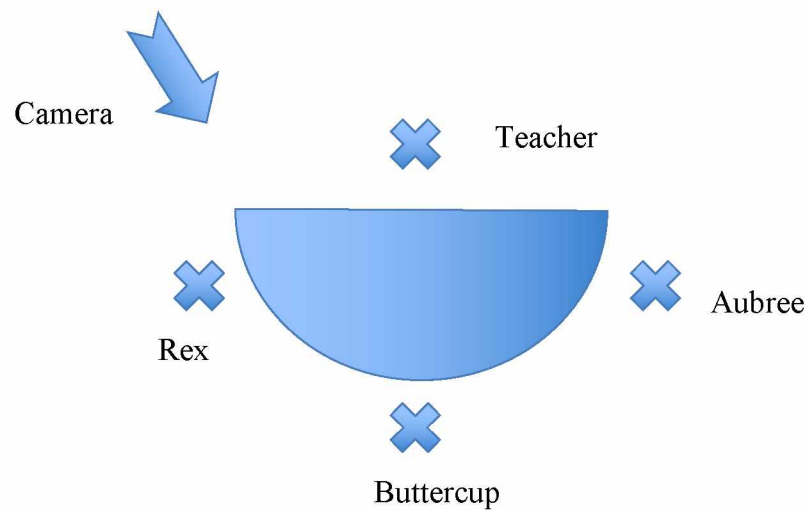


Figure 4.1: Seating positions at the beginning of task one

At the beginning of Task 1, I said, “I’d like the three of you to work together to put [the pictures] in order from beginning all the way to the end.” I explained my group expectations by saying “you can figure out why one picture should be the first picture, why the next picture should come after that,” and then stated “make sure you communicate and that you are listening to one another” while determining the best order for all ten images. I also shared “you can talk in English, and you guys can talk in Yup’ik together” expressing that the group could utilize their full language repertoire.

Once I set the images on the table, Aubree requested for Rex to hand her all of the photos. She then placed them all face up on the table in no particular order so all students could see the images (see Figure 4.2).

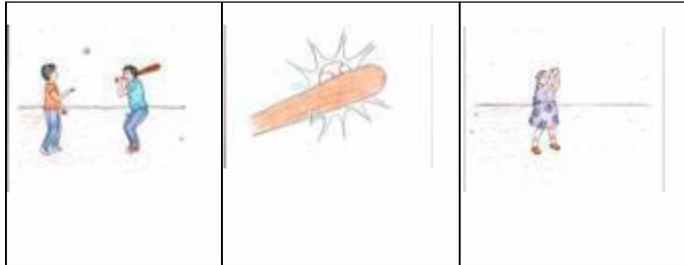


Figure 4.2: Aubree’s placement of the illustrations

There was some confusion at this point because Buttercup believes that Aubree caused the images to get mixed up given her method of spreading out the images. Regardless, the three start to pick up pictures and use short phrases such as “this one,” “una,” “tauna” “no, look,” and “una, I think” to communicate while handing the images to Rex to hold in order. It appeared to me that Rex was rushing the two other students through the task by pulling at the images and quickly

grabbing the papers from the other two. Aubree was trying to look at three of the final images seen in Table 4.4 but Rex was trying to hurry her up by grabbing the photos from her.

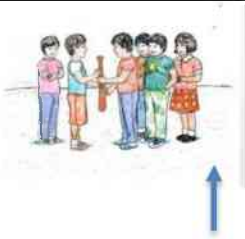
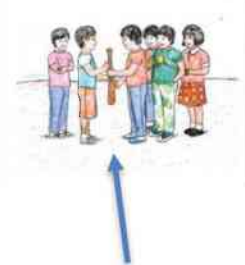


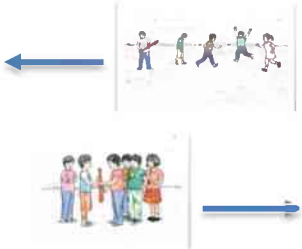
Table 4.4: *Aubree's Images*




Aubree then tells her classmates that she is frustrated, “you guys are so confusing” while Rex groups the final images in his hands. Then she sat back in her chair away from the now cleared table. It is at this time that I invited the students to tell me what order they had decided on, which resulted with the first critical meaning making moment.

Excerpt 4.1 “Choose a game then they started playing”.

I directed the students “so let’s lay the story out so we can actually see it. So maybe have the beginning over here and bring it all the way out to the end” motioning my arm across the table. This final order can be seen in Table 4.3. Aubree took the initiative again and led the group through retelling the events in the picture narrative. Buttercup also offered her thinking in addition to Aubree’s retelling.

Excerpt 4.1: Task 1: “Choose a game then they started playing”		
Words and Gestures	Kinesthetic	Picture
003: A: they’re gunna start the game (pointing to the bottom right corner of the illustration labeled with a blue arrow)		
004: B: no look. They (pointing at the picture labeled with a blue arrow)		
004a: B: [start before they did the game] (placing hands repeatedly over one another like the action in the illustration)		
005: A:[they’re (.)] (tapping her hand labeled with the blue X)		
005a A: they’re (.)] (rolling her fingers at the bottom of the image labeled with the blue X) oh		
006: B: they’re starting a. um (...)	Aubree leans into the table and then moves the image ‘setting up to play’ up and to the left and moves ‘what team goes first?’ down and to the right. She sits back	

	in her chair and looks at the new order.	
007: A: caus they seem like running already and then they they choose a game then they [started playing]		

The girls experienced a disagreement at the picture captioned ‘what team goes first,’ seen in Figure 4.3. Aubree stated in line 003 “they’re gunna start the game” as she pointed to the image captioned ‘what team goes first.’ Buttercup tried to make the hand motion of grabbing the bat hand over hand that this picture depicts while she said, “no look, they start (hand motions) before they play the game” in line 004. Buttercup had hoped that Aubree would understand her idea that the hands on the bat is important in deciding which team goes first. Aubree remained focused and kinesthetically represents her thinking by rolling her fingers on the image captioned ‘what team goes first’ seen in Figure 4.3. Aubree then tried to explain her thinking in line 005 by stating, “they’re, they’re...,” and then paused in a brief moment of silence.



What team goes first?

Figure 4.3: Buttercup and Aubree disagreement

She then exclaimed “oh” in line 005 and took her hand away from the image and stood up out of her seat. The meaning Aubree made now shifted and she developed a new understanding of the images. Buttercup now tried to share her thinking by pointing to the image captioned ‘what team goes first?’ while saying “they’re starting a um...” in line 006. Buttercup is interrupted from her

explanation as Aubree physically manipulated the arrangement of the images. Aubree moved the second image, “what team goes first?” down and pushes the third image, “setting up to play,” above to switch the order now represented in Figure 4.4. Aubree then shared her thinking in line 007, “caus they seem like running already and then they, they choose a game...” while she extended her arm out towards image “setting up to play.” She then points at the image ‘what team goes first’ and continued to explain “...then they started playing.”

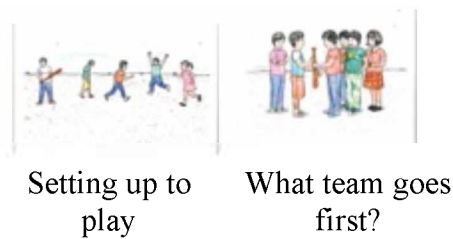
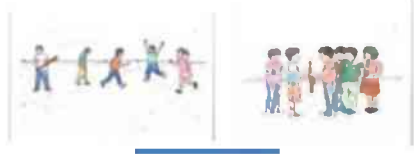








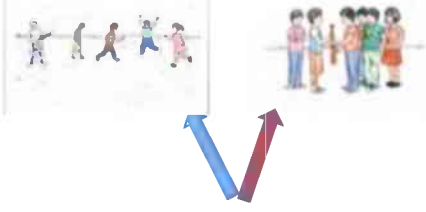
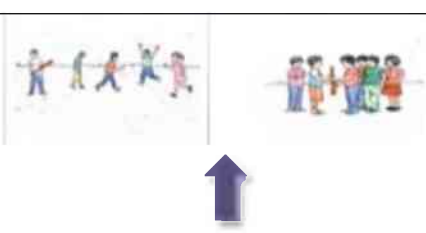
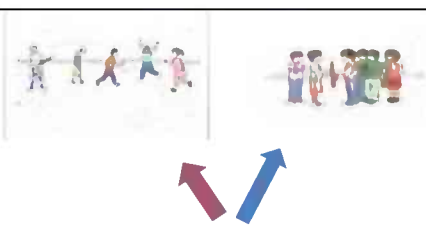


Figure 4.4: Aubree's image order

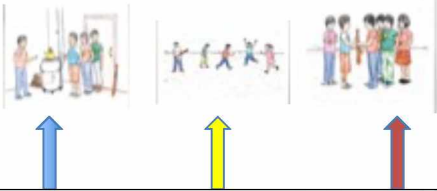
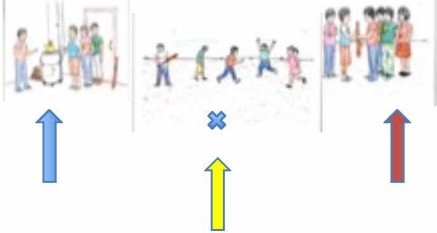
Later, Rex offers a correcting comment to Aubree's explanation by suggesting the character in the image “setting up to play” are trying to “choose a player” rather than choosing a game. The students utilized the mode of image by looking at the illustrations presented in this task. They made meaning first based on what they could see in the images and further developed their understanding when gesturing their arms as well as the kinesthetic movement of the illustration order. Language was one of the final modes utilized which they used to explain their thinking rather than discuss their ideas as a group. Ultimately, Aubree's visual interpretation impacted her movement of the images and created a new understanding for the progression of the story. This socio semiotic meaning making moment is described further into the task progression and later discussion captured in the following excerpt.

Excerpt 4.2 “They start the game an[d] then they weren’t playing”.

The students continued to explain the remaining sequences of the story before I questioned the work that the students had done. I posed the question to the group to describe the sudden picture switch depicted in Excerpt 4.2 that took place during the image retell. Buttercup attempted to switch the two images, “setting up to play” and “what team goes first?” so they were in reverse order. I redirected her action and encouraged the students to explain the reasoning in changing the image order. Based on Buttercup’s desire to change the order of the images, I knew she had a different understanding than Aubree so I was curious what meaning the students would be able to describe. Excerpt 4.2 includes the discussion that followed my prompting.

Excerpt 4.2: Task 1: “They start the game an[d] then they weren’t playing”		
Words and Gestures	Kinesthetic	Pictures
026: R: [because]		
027: A: [[cuz]] it was confusing like (Aubree extending her left hand out to the side palm up in the direction of the images) (.)		
027a: A: they start the game an (Aubree pointing at ‘what team goes first,’ blue arrow)		
028a: A: then they weren’t playing\ on that one yet\ (Aubree pointing at ‘setting up to play,’ red arrow)		
028: R: choose a player\ an then\ (pointing left index finger on ‘setting up to play,’ blue X)		

(.)	Rex moving his hand over to 'what team goes first' image, not yet pointing	
028a: R: umm (...) (tapping image four times with left pointer finger on image, blue X)		
028b: R: star- started da game\ (pulling his hand back away from the image)		
029: B: I woulda (pointing two fingers, palm facing up, at the pictures)		
029a: B: mixed (flipping her hand around)		
029b: B: back where it was\ (placing her fingers back down on the images now palm facing down)		
030: T: Why/?		
031: B: cuz if they started to play/ (pointing her left pointer finger at the image 'invitation to play' three times)		
(.)	Buttercup turning her head and looking over at the two other images	

031a: B: they start (pointing at image 'what team goes first,' red arrow)		
031b: B: the game before they play (pointing at the image 'setting up to play' with her right pointer finger four times, blue X) (..)		

Rex and Aubree responded at the same time in line 026 and 027, so Rex stopped his explanation and Aubree continued sharing, “cuz it was confusing like...” while gesturing her hand at both of the images seen in Figure 4.5.

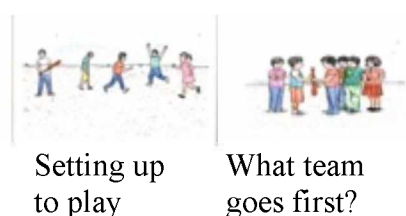


Figure 4.5: Aubree and Rex’s explanation of images

Aubree then points at the image “what team goes first?” and said, “...they start the game...” in line 027a. She then pointed at the image “setting up to play” continuing, “...an then they weren’t playing on that one yet” in line 027b. Based on her explanation, the children who are spread out have not started playing the game yet, and she thought this image looked like children running around before the start of the game. The image “what team goes first?” appears to be the official start to the game in Aubree’s interpretation. Rex also added, in line 028, “choose a player...” while pointing at the image “setting up to play.” He then started to explain

the image “what team goes first?” by saying “umm” followed by tapping the image four times in line 028a. This kinesthetic movement of tapping the image represents his thinking as well as signaling to others that he has not finished his thought. He then continued to share “...star-started da game” while pointing to the image “what team goes first?” in line 028b. Rex’s addition concurs with Aubree’s idea, yet he also added additional meaning. Rex believed that the image “setting up to play” represented the process of selecting players for each team. Rex believed the image “what team goes first?” is the routine to start the game. Rex and Aubree shared similar interpretations of these two images and utilize gesture and images to support their oral explanations.

Buttercup, however, is interpreting these images differently. In lines 029-029b, she expressed “I woulda...” while pointing two fingers out at the images palm facing up as noted in Figure 4.6 with the two arrows. Then she continued “...mixed...” then gestures her hand by flipping it around and continued to say “...back where it was” while placing her hand back down on the table palm facing down. This spoken and gestural explanation of these pictures meant that Buttercup preferred the images back to the original placement when they were first explaining the order of the images.

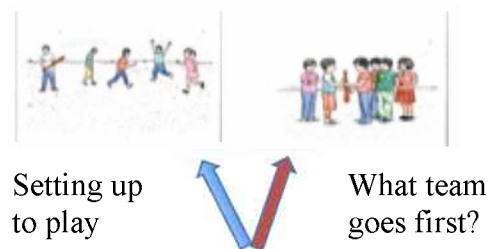


Figure 4.6: Buttercup’s explanation using her hand to gesture switching

I encouraged her to continue explaining her thinking in line 030 and questioned “why?”. Buttercup began by pointing at the image “invitation to play” as seen in Figure 4.7 represented by the blue arrow and explained “cuz if they started to play they start the game...” in line 031 and 031a while pointing at illustration “what team goes first” labeled with a red arrow. She then finished explaining in line 031b “...before they play” while pointing at the illustration ‘setting up to play’ labeled with a yellow arrow. Buttercup interpreted the illustration “setting up to play” as a representation of the children already playing the game and the illustration “what team goes first?” as the action just before starting the game. Buttercup tried to set up her full explanation by starting at the first illustration explaining that the children wanted to play lap game. According to Buttercup’s meaning, the children must first complete the task of placing their hands on the bat shown in the image “what team goes first?” before starting to play the game as seen in the image “setting up to play.”

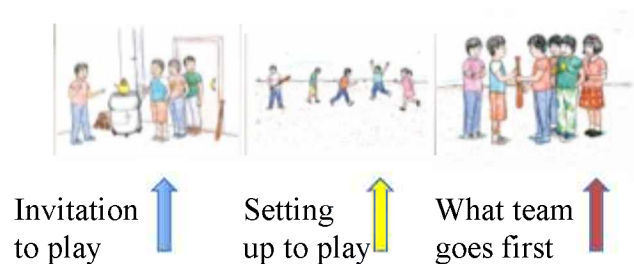


Figure 4.7: Buttercup’s continued explanation of the image meaning

After explaining the illustrations, the students then added in their own text to describe each of the images in the sequence that they had made seen in Table 4.3. The students worked independently and occasionally asked support with spelling. Once there was at least one caption

for each image, I had the students retell the story in a written reflection. I reviewed the reflection briefly with each student before having them turn it in.

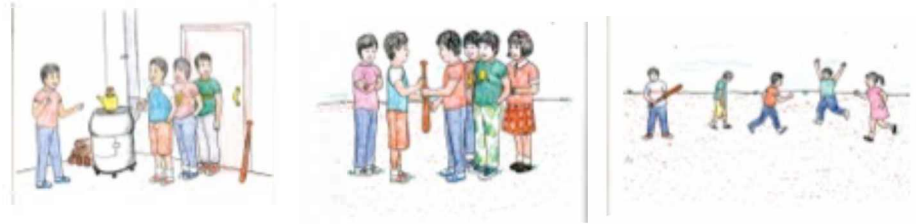
Multiple interpretations spark disagreement behind meaning.

I found that my students developed two interpretations of one illustration, which created two different beginnings for the story. Ultimately, it came down to the illustration seen in Figure 4.8 of the children all spread out in the background of the picture. According to Kress (2010) an interpretation of an image is left up to the viewer's understanding of the elements represented in a framed amount of space. This illustration showed characters in a distant setting farther back in view and all spread out. By representing the characters smaller and with less detail, the characteristics are harder to interpret and can result with multiple meanings. According to Serafini (2011) "the farther away objects and participants are positioned, the less readers are able to connect to them" (p. 346). That being said, my students also found it challenging to agree on one representation for the illustration, "setting up to play." Two students felt this illustration was depicting the children running around before the game had begun while the kids are starting to pick who would be on their team. One student interpreted the illustration showing the children already playing the game as the kids were running around in the action of lap game. The use of depth in this illustration creates the opportunity for multiple interpretations. Given that the text was not used for this task, both interpretations are valid with the students added explanations through verbal and gestural modes.



Figure 4.8: Multiple interpretations of the illustration “setting up to play”

This first task allowed my learners to use cultural illustrations to support their meaning making process. It is evident through the above observations and notes that social processes and semiotic modes were utilized to construct meaning. Most interestingly was the event where Buttercup identified with the first three illustrations differently than Rex and Aubree. Based on the meaning made for the first three illustrations, Buttercup understood the story to make sequential sense by first having the “invitation to play,” followed by “what team goes first?” and then the progression of “playing lap game” as seen in Figure 4.9. Based on her interpretation, the caption “playing lap game” supports the meaning she made rather than the caption “setting up to play.” Aubree and Rex shared a different interpretation of the illustration, “setting up to play,” in Figure 4.8 based on the meaning they made. Where Buttercup understood this illustration to capture the idea of “*playing lap game*,” Aubree and Rex understood it as the children “setting up to play,” which ultimately took over when establishing a final story order.



Invitation to play What team goes first? *Playing lap game*

Figure 4.9: Buttercup's story progression based on her meaning made

Shared images allowed access to multimodal meaning making.

The first task had the students sequencing ten images into an order that they all determined appropriate. The students were working together as they viewed all of the images, they were able to move them around the table and discussed what they were seeing. I found that the students were not talking much at the beginning of the task, rather, making reference to the images by pointing at them and referencing specific qualities in the pictures. The students started with viewing the images, which grounded their meaning made for each image. Based on the meaning interpreted, the students then pointed out important details and manipulated the order of the story. Then the students were able to create a verbal response or explanation for the reasoning in moving the images in the order that they chose.



Because the students started with the images first as their foundation of meaning making, the images were supporting the verbal descriptions and interpretations made throughout the remainder of the task. The complex meaning making that was occurring in this task started from the images. Each student held their own interpretations of each image and when put into an order, their opinions and dialogue started to occur. The meaning did not start from the language produced from the students, rather, the language that was produced was a result of the meaning made based on the images they were sequencing. This task helped introduce the use of all the

modes in the process of meaning making. The students were able to observe all visual images, discuss openly what they saw, move the images around in space, as well as identify specific parts in each picture together as a group. This task did not restrict the access or use of the modes.

Task 2: Similarities and Differences of an Image Unseen

The second task incorporated a different level of student collaboration than the first task. The students would now have one image from the story *Uqiqurnariuq* (Moses & Moses, 2013a), which is about the traditional practice of throw parties or seal parties, taped to their back for their peers to see. I selected illustrations that depicted similar moments during a throwing party, yet each image captures different qualities so that the students could compare and contrast the details. Based on the meaning from the book, Aubree's illustration represents children practicing a throw party with pretend objects. Buttercup's illustration captures a traditional seal party with elders gathered close in the front and younger ladies in the back. The last illustration that Rex has behind his back represents a modern throw party for a baby's birthday including elders, young women and children gathered all around. The illustrations can be viewed in Appendix D and Table 4.5 below identifies the illustration given to each student.

Table 4.5: *Illustrations Taped Behind Students' Backs*

		
Aubree: children practicing throw parties	Buttercup: traditional seal party	Rex: modern throw party for a birthday

This intention of this task required the students to describe the illustrations seen on their peers' backs in such a way that each person understood the illustrations that were on their own back. From the descriptions, I wanted the students to work together to determine what qualities were similar and what were different. Throughout the majority of this task, my students were moving around the classroom assembling into lines, and various groupings in order to view the pictures.






It is important to note that prior to starting this task, I had experienced technical issues with my video recorder. I had the students walk down to my classroom before I had checked my recording device and while they were sitting at the first kidney bean table, I realized I could not save a video longer than ten seconds. While the school technology support was addressing my concern with the SD card, I had the students continue their work from the System 44 program workbook together as a group. After 20 minutes, I was informed that the SD card would still not work in the camera. Rather than prolonging this recording issue, I decided to capture the video through my research iPad. The iPad's video camera setting is positioned with a narrow focus, so the recording appears to be very close to the students and misses the students' gestures and movement multiple times. That being said, my level of frustration was heightened due to the technology issues I had encountered and my student's motivation to participate had also been strained as I pushed the activity further back in the class period. When we finally started the task, I only had 45 minutes remaining in class so I was feeling additional pressure to complete our work before the end of class.



When we finally started the task, I directed the students by stating "I want you to look at what pictures your partner has on their back and I want you to figure out [...] I want you to look at the pictures and determine what's similar and something that's different." I did not tell the

students how they should view the pictures because I was curious how they would assemble themselves. This turned out to create confusion among my students because they walked around the classroom naming items they saw in the illustrations. The students were not building complex language structures to compare or contrast the illustrations. The students did not hold a focus on any one picture for very long as they maneuvered around the classroom observing the illustrations and naming strictly what they saw. The students expressed short phrases such as “they’re throwing a crackers,” “cloth and candy,” and “throwing a clothes” as they named what they saw. The discussion continued as the students named items that they are seeing without much connection to what is similar or different among the illustrations. The students were also sharing items that might be thrown at a seal party, which is possibly a result of the students applying their own experiences and funds of knowledge of seal parties. During this time, Buttercup had explicitly asked “What’s behind my back?” while positioning herself so Rex could view her illustration. He answered her question by stating, “those are the elders” as he looks at her illustration. Buttercup then goes back to viewing her partners’ illustrations. I believe the lack of structure and mediation caused confusion across the purpose of the task as well as a challenge to remember what each image consisted of as they walked back and forth around the room.

Excerpt 4.3 “Cracker, candy an[d] cloth”.

Through the following discussion in Excerpt 4.3, Buttercup was trying to comprehend her image based on the ideas that had been shared through the naming phase.

Excerpt 4.3: Task2: “Cracker, candy an[d] cloth”		
Words and Gestures	Kinesthetic	Picture
082: B: [cracker] (pointing at Aubree’s picture)		
082a: B: candy an cloth (turning around to point at Rex’s image)		
082b: B: an makes it in here (turning her back to the teacher and places her hands under the picture)		
083: A: mm\ [how come dey]	*out of view from the camera	
084: T: [you think yours] is all mixed?		
085: B: uh hmm		
086: T: What di- what do you think Rex? You can [see hers]	Buttercup walks forward so Aubree and Rex can see her image.	
087: A: [der not mixed]	*out of view from the camera	
088: T: what is happening [in Buttercups] picture\?		
089: B: [ohh candy] (turns to face Aubree as she talks)		
090: R: throwing [cloths]	Buttercup is walking face towards Rex	
091: A: [cloth] and cloth and	Buttercup is walking face towards Aubree	

092: B: der in here\ (Buttercup turns so Aubree can see her image and taps the back of her image)			
093: T: so Aubree (walking towards Aubree) why don't you help Buttercup understand more [what is being] thrown in her picture			
094: A: [mmmmm^] ders no candy it only cloth\ ders (holding Buttercups picture up in her hands)			

Buttercup paused for about six seconds holding her hand behind her back grabbing her picture thinking before constructing her response in line 082. She then moved back and forth between viewing only Aubree's image then back to Rex's image and named what she saw. Buttercup then expressed in line 082, "cracker..." while pointing to Aubree's image, then said in line 082a, "...candy an cloth..." while pointing to Rex's image, and finally said "...an makes it in here" as she turned her back to the camera and showed her own image to me in line 082b. Figure 4.10 displays the images that each student has behind their back which Buttercup was referring to as she shared her thinking. The nature of the task caused Buttercup to move through the space as she points to each image as she describes, yet it is through this movement and gesturing that support's Buttercup's meaning making process in determining what is clearly behind her back. I then clarified Buttercup's observation in line 084 by asking her, "you think yours is all mixed?" overlapping with Aubree's question, line 083, "how come dey?" It is unclear what Aubree referred to because she is out of view of the recording and has not been engaged in the conversation for the past 20 lines of dialogue. Buttercup responded to my

question with agreement in line 085 that her image is a mixture of crackers, candy, and cloth. I then encouraged Rex to observe Buttercup's image and determine if her idea is true in line 086 "What do you think Rex? You can see hers." At this point, Buttercup had moved forward so that Rex, Aubree and I can see her image on her back.



Figure 4.10: Images taped to their back

Aubree joined the conversation by answering my question saying, "der not mixed" in line 087. I offered another supporting question for Rex and Aubree to clarify Buttercup's picture in line 088, "what is happening in Buttercups picture?" Now Buttercup exclaimed, "oh candy" in line 089. I think Buttercup was trying to answer my question by sharing this response. No one rejected Buttercup's answer, but Rex continued to share his answer "throwing cloths" in line 090. Buttercup now walked towards Rex as he is sharing his answer. Aubree overlaps with Rex's response by saying, "cloth and cloth and" in line 091 as Buttercup turned and walked towards Aubree. Once Aubree finished, Buttercup turned her back towards Aubree and said "der in here" in line 092 while pointing to her illustration seen in Figure 4.11. I believe Buttercup was trying to agree with her peers that cloth was being thrown in her picture, but her tone uses a falling intonation causing me to question Buttercup's confidence in her interpretation. Because Buttercup's response is not complete and possibly posed as a question, I walked towards Aubree and pose an additional direction for Aubree in line 093, "so Aubree why don't you help

Buttercup understand more, what is being thrown in her picture?” Aubree holds Buttercup’s image up to her view in her hands while saying “ders no candy, it only cloth,” in line 094 for Buttercup to hear.



Figure 4.11: Buttercup’s illustration

I found this exchange to be one of the first times where they are sharing concrete information for the partner who cannot see the image to understand what is being described to them. Buttercup had been visualizing a picture in her mind based on what she could see from the illustrations on her partner’s backs and had not taken information that was shared before this dialogue exchange. Additionally, Rex and Aubree had been brief with their responses to Buttercup. This caused me to facilitate more and provide supporting questions as the students worked together.

The group continued to name what they saw in the images and I eventually prompted both Rex and Buttercup to stand side by side for Aubree to observe the images on both of her partners’ backs. I supported Aubree through the process of identifying similarities across the images. She struggled to develop a clear response describing the relation between the two images, yet she was able to move between the images while naming the differences she saw.

At this point in the activity, I concluded that my students were mentally expended from viewing these illustrations repeatedly in this way and determined that taking the illustrations off




and transitioning into summarizing this task would be the best use of our time. The students then participated in the journal prompts before finishing the task.

Constructing meaning of other illustrations rather than their own.

I found that even with the challenges that took place while performing this activity, my students were still constructing meaning of the pictures throughout the task. Within the excerpt presented, Buttercup had made a point of trying to understand all of the images and offers her own interpretation of the image behind her back before seeing it.

After Buttercup spent an extended time observing her peers' images, she hypothesizes that her own picture has all three elements when she said "cracker, candy an cloth an makes it in here" at lines 082-082b in table 4.6.

Table 4.6: *Select Dialogue from Excerpt 4.3: Task 2*

Words and Gestures	Picture
082: B: [cracker] (<u>pointing at Aubree's picture</u>)	
082a: B: candy an cloth (<u>turning around to point at Rex's image</u>)	
082b: B: an makes it in here (<u>turning her back to the teacher and places her hands under the picture</u>)	


Buttercup's idea is an interesting proposition because Rex had told her in previous discussion outside of this excerpt, that she only had cloth in her picture. This causes me to wonder as a teacher action researcher, "what tools could I have supplied my students with so that they could effectively compare these images throughout the task?" Based on Vygotsky's work,

Smagorinsky (2018) addressed that teachers should focus their efforts on the potential development that could be made in the near future rather than focused on what happened the day before. I was intentional in having the first task my students do include listing what they saw and explaining the order of the story. I thought that these skills would be beneficial and transferable for the second task requiring the students to utilize complex thinking to compare the images.

Furthermore, my students were relying only on the visual images that they could see, and the verbal explanations of the image they could not see. This set my students up for a highly limiting task forcing my students to use language in such a way that was not developing their meaning. Language can be one of the most powerful semiotic resources (Storch, 2017), yet there must be enough structure within the task for complex language to form meaning for the learners involved in the dialogue. I believe that this task was lacking the appropriate structure and design that would produce the complex language needed for the comparison I was hoping to create.


Additionally, I wonder if Buttercup was caught up in an idea in her mind and created a picture in her mind that included all three. This would not be a surprise to me based on her creative thinking that she shared with me during her individual interview. For example, when asked “what helps you as a reader?” Buttercup described this process as “you’re in a book” and “if you read you could make your own story about books.” Aubree and Rex were sharing in short statements what Buttercup’s picture included as seen in Table 4.7. These comments, however, I believe are getting lost within the overlap of dialogue and movement throughout the room.

Table 4.7: *Select Dialogue from Excerpt 4.3: Task 2*

Words and Gestures	Kinesthetic	Picture
090: R: throwing [cloths]	Buttercup is walking face towards Rex	
091: A: [cloth] and cloth and	Buttercup is walking face towards Aubree	
092: B: der in here (<u>Buttercup turns so Aubree can see her image and taps the back of her image</u>)		

Buttercup moves between her partners as if she is pacing back and forth. This movement suggests she is thinking about what is being shared, yet, the dialogue that Aubree and Rex provide is short and overlapping. Rex stated “throwing cloths” in line 090 and Aubree overlaps with Rex saying “cloth and cloth and” in line 091. Buttercup then made the statement “der in here” in line 092 at Aubree as she turns and presents her picture so Aubree can see it. It is puzzling what Buttercup is trying to imply through this comment. I wonder if she is questioning Aubree and is trying to ask ‘are there only cloths in my picture?’ or if she is stating ‘there are only cloths in my picture.’ I tried not to jump into the conversation with my own idea, rather, I prompted my students to support one another.

Table 4.8: *Select Dialogue from Excerpt 4.3: Task 2*

Words and Gestures	Kinesthetic	Picture
093: T: so Aubree why don’t you help Buttercup understand more [what is being] thrown in her picture		
094: A: [mmmmmm/] ders no candy it only cloth\ ders	Aubree is looking at Buttercups picture and is tilting it up to her view	

I encouraged Aubree to help Buttercup understand her illustration by saying “so Aubree why don’t you help Buttercup understand more what is being thrown in her picture” in line 093. When I had addressed Aubree, in this way I believe I caused some frustration, which she voices through a rising and lowering “mmmmm/” comment in line 094. Aubree does comply with my request and said “ders no candy it only cloth\ ders” as she is holding Buttercup’s illustration up to her face. This tells me that Aubree, while most likely reluctant to share, was still compliant and thorough with her responses. She walked over to Buttercup and lifted up Buttercup’s illustration to look closer at the picture as she shared her observation.

When comparing this observation to Buttercup’s written reflection, seen in Figure 4.12 and in Appendix E, she does not include cloth as an item that she describes being thrown. Buttercup does share the detail of throwing candies, which she noted in Rex’s picture as well as the elder’s that she also pointed out from both Rex and Aubree’s illustration. I find this critical to note because the meaning that Buttercup connected with most was based on the illustrations, she could see for herself rather than the illustration that was being described to her.

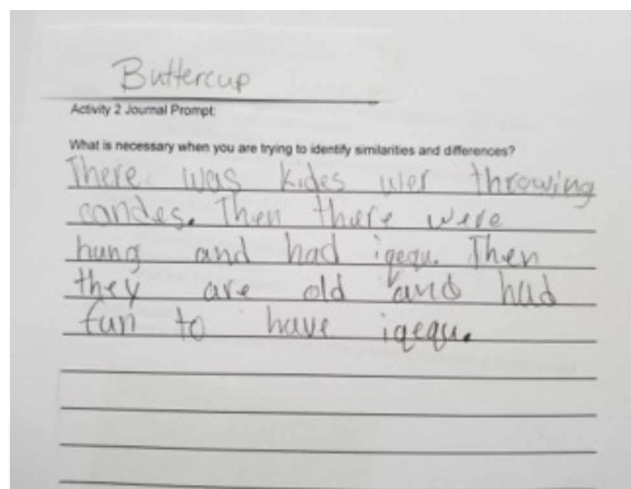


Figure 4.12: Buttercup Task 2 written reflection

Additionally, Buttercup used the Yugtun word “uqiqu” to describe the event rather than using the English translation “seal party.” During the discussion of what was seen as similar across all the images, Buttercup made the comment that “people are here to gather round to uqiqu” at the beginning of the task. I believe that Buttercup has developed meaning for the main idea across all of the images. Although this was not the intention of the task, this social interaction provided a meaningful opportunity for Buttercup to apply her funds of knowledge (Moll, 1992) to her meaning making process.

Limiting modes resulted with frustration.

The second task used only three images, where one image was taped to each student’s back. The students were then asked to make observations that focused on similarities and differences within each of the pictures. Finally, the students then made concluding statements based on what they observed as being similar and what was identified as being different.

The second task limited the use of the modes drastically by restricting the students to view only the images they could see on their partner’s backs. I anticipated the students to be able to use spoken language to communicate complex meaning making to each other. Then, I expected my students to process this strictly verbal information to develop meaning across all three images. This turned out to be extremely complex as well as highly limiting for my students to access their modes for meaning making. I took away the student’s access to their own image and expected them to make meaning based on the separate images they could see and the verbal descriptions that were shared regarding their image. By limiting my students’ access to their full modal resources, I restricted their meaning making abilities, causing confusion and frustration throughout the task.

Task 3: Negotiate and Order Images Unseen

The third task had the students sequencing a series of images with a visual barrier between each student's illustrations. Each student had only three sequential illustrations that they could view from a larger nine-image sequential illustrated story. The students first made meaning of the illustrations they were given and then worked together to make meaning of how the whole story connects. This task incorporated both skills learned from the two previous tasks including naming and describing what is being seen, as well as communicating what is understood as a coherent narrative. The students chose their own seats for this activity as seen in Figure 4.13. I also positioned testing barriers represented with the black markings within Figure 4.13 to block the student's view of their partner's work.

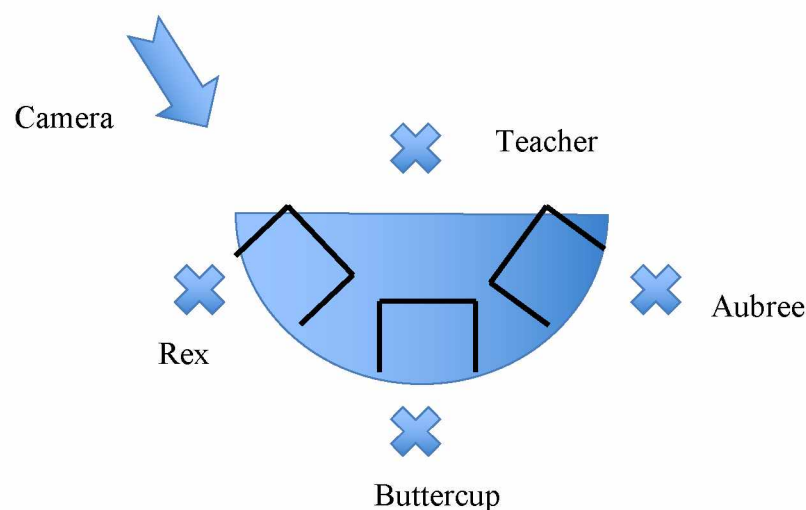





Figure 4.13: Seating positions for Task 3

At the beginning of this task, I set up the dividers and then randomly passed out the illustration sets to the students. The dividers were used to create a barrier so the students could not see the other images. I instructed the students, "Remember do not tell anyone what you see yet, I want you to just first look at the picture you have. Make some observations in your head.

Think about what they might be doing.” After about ten seconds I passed out a paper with two prompts that stated, ‘What is happening in your set of pictures?’ and ‘Describe the order of the story’ which can be found in Appendix M. I prompted the students to “fill out the top section and describe what’s happening in your pictures.” The students spent about ten minutes reflecting on the prompt ‘What is happening in your set of pictures?’ I walked around to each student and supported anyone who needed further guidance as needed during this time.

I selected images from the story *Iqvaryaqatartukut* (2013), which is about a family going berry picking out on the tundra (seen in Table 4.9 and Appendix F). Each set of images was presented to the students on one card in the correct order. The correct story progression is also represented within the table below.

Table 4.9: *Iqvaryaqatartukut* Story Sets and Order

Illustration set	Student viewing image
	Buttercup: First set: Arriving to berry pick
	Rex: Second set: Picking berries
	Aubree: Third set: Finishing berry picking and leaving

Next, the students described each of their pictures out loud so their partners could begin to understand the full story. I noticed that my students were very distracted throughout this portion of the task as it was very demanding for auditory attention. I supported the students throughout each of their explanations and encouraged the students to repeat back what they had heard being described to them. After all the students shared their images, I then encouraged the students to talk freely to determine an appropriate order to the story. I encouraged the students to identify what is similar across all of the pictures to support their discussion in creating an order for the images. After each student described their pictures, I asked “Do we notice a theme across all of these pictures? What’s similar?” Rex stated “the river” was similar and Buttercup eventually made the connection that “picking berries” was what each person talked about as they described their pictures.



The students then brought their discussion back to determining the order of the images. Buttercup and Aubree focused on a common element, the boat, which was present within both of their image sets. The girls were unable to conclude any order together based on the boat however Rex was able to conclude that his illustrations would appear second in the sequence due to the discussion Buttercup and I had. Buttercup had identified the little bucket that the girl in her picture was holding and I asked her “ok what about the little bucket?” Buttercup responds “she’s, I think she’s picking berries.” In an effort to get more description from Buttercup I question “does it look like she’s picking berries now?” This question was intended for her to identify the present actions within her illustrations rather than applying her inferences and her own funds of knowledge into the sequence of illustrations. Buttercup responded, “uh-uh she’s just holding the bucket.” At this moment, Rex identified that his own image set ‘picking berries’ is second in the story based on the discussion of Buttercup’s illustration and said, “mine is

second.” Rex followed the dialogue I had with Buttercup and determined that his own picture set fits into the story second. Rex does not connect this knowledge with his previous claim of Buttercup’s picture being first however, which continued the discussion regarding the two remaining illustration sets.



Excerpt 4.4 “The girl’s picking berry”.



The students eventually make it to a point in their discussion where they are attempting to recite the events of the story in the order of Aubree’s illustration set first, Rex’s illustrations second, followed by Buttercup’s last. This order can be seen in Table 4.10. The students still do not see the other illustrations as they are retelling the events of the story.

Table 4.10: *Order of Events in Blind Retell*

	First: Aubree: Finishing berry picking and leaving
	Second: Rex: Picking berries
	Last: Buttercup: Arriving to berry pick

Excerpt 4.4 captures the dialogue exchange between the three students as they retold the story in the order seen in Table 4.10.

Excerpt 4.4: Task 3: “The girl’s picking berry”		
Words and Gestures	Kinesthetic	Pictures
052: A: There’s a girl and has a red basket, yellow boots the parents are picking some berries (...) they’re gunna go eat their food they’re eating it they’re gunna go on the boat (...) done	Aubree is covered by test divider	
053: T: K so Rex you’re next (<u>looking over at Rex</u>)		
054: R: The girl’s picking berry\ (<u>Rex lifts up his head off the table</u>)		
055: T: Wait/ (<u>putting hand out in front over the table</u>)	Buttercup looks up at teacher	
056: B: ohhhh \ (<u>Looking over to Rex</u>)		
057: T: listen\	Buttercup looking back at the teacher	
058: B: laaa/ (<u>maintaining her gaze at the teacher</u>)	Aubree lists up her head from behind the divider	
059: T: Aubree just said that they’re going on the boat\ (<u>pointing at Aubree</u>)	Rex looks up at the teacher	
056a: T: and then it jumps over to Rex\ (<u>pointing at Rex</u>)		
056b: T: [saying what?]		
060: B: [I’m [[first!]] (<u>looking up at the teacher</u>)		

061: R: [[the girl picking]] berry (looking down at his pictures)		
(.)	Buttercup looks over at Rex then back to the teacher	
062: B: I'm first (maintaining gaze at teacher)		

I prompted Aubree to describe her illustrations, but she became flustered with the repetitive nature of describing and requires a great deal of encouragement. Aubree kept her head down as she described her illustrations in line 056, “There’s a girl and has a red basket, yellow boots the parents are picking some berries. They’re gunna go eat their food there eating it they’re gunna go on the boat. Done.” I prompted Rex to share next and he begins to describe “The girl’s picking berry” in line 054 and he lifted his head up off the table. I then interrupted his explanation and stated “wait” in line 055 as I gestured my hand out in front of the table to stop Rex from continuing. At the same time Buttercup looked up at the teacher and then let out an audible “ohhhh” in line 056 and looks over to Rex. Buttercup’s audible exclamation and look exchange from the teacher to Rex expresses a moment of realization in her thinking. I then stated “listen” in line 057 and Buttercup looked back towards me and let out another audible sound “laaa” in line 057. This second sound that Buttercup makes could be an attempt to say ‘last’ as in Aubree’s images would appear last in the sequence. Aubree now lifted her head up from the table finding more interest in the changing progression of the story. Given that Buttercup’s audible sounds is a sign of her developing thoughts, this signals that she recognizes

the information that has been shared is conflicting and that the order is not right. I believe Buttercup would have made this realization regardless if I had interrupted Rex because her reaction and my statement occurred so close together.

I continued to lead the students through identifying the error in the story order by stating, “Aubree just said that they’re going on the boat” in line 059 as I point at Aubree. Rex looked up at the teacher at this point and I continued to explain “and then it jumps over to Rex” in line 056a as I pointed to Rex. The dialogue then overlaps with Buttercup as I questioned “saying what?” in line 056b with Buttercup’s claim “I’m first” in line 060 as she is looked up at me. Buttercup has connected the information from Aubree’s explanation with the beginning of Rex’s description to understand that the most meaningful order would have her set of images come first in the story. Rex overlaps with the ending of Buttercup’s statement when answering my question in line 061 “the girl picking berry.” Buttercup looks back at Rex one last time before turning back to the teacher to stated again “I’m first” in line 062. The students were able to construct meaning using the illustrations that they could see as well as their linguistic modes of communication. They were able to share as well as listen to what was beginning told to the group to determine the correct order.

Challenges with sequencing without seeing.

Buttercup understood that in the progression of the story as it was described by Aubree and Rex so far did not line up with the information that she has understood in front of her. She recognized that the story order was not correct and therefore made an audible sound. Buttercup identified that the first described sequence of the family eating to then leaving on the boat to then having the girl picking berries did not line up accurately. Buttercup could have been applying her own understanding of berry picking in this realization in addition to noticing that her

illustration set should be located at the beginning of the sequence. This excerpt captures Buttercup putting all of the pieces of the story together through Buttercup fully understanding her own illustrations and how they align with the other illustrations based on what she had heard.

It was through the naming and identifying of details in Buttercup's pictures that started her awareness of the story. She identified early on in the dialogue that this story was about berry picking. Through questioning Buttercup's illustrations, Buttercup was required to identify and describe the details of her illustrations which furthered her understanding. In addition to that, Buttercup could have been using her understanding of her own illustrations to develop her own story progression. This could also be said about the two other students involved in this task as well. Given that all three students had full modal access in developing meaning of the images they could see, it was possible that they were creating their own stories. By limiting my students from visually seeing the other images, they could have been designing their own meaningful story leading up to and following the illustrations that only they were able to view.

An important take away from this task is that one verbal description of the images was not enough for the listeners to build interpretations nor was it enough for the student viewing the illustrations to have a solid understanding of their own images. It is through repeated discussion and questioning where the students started to grasp a confident interpretation of their illustrations to the point where they could make claims and explain what they were thinking. Furthermore, by limiting my students visually, I limited their semiotic resources to support their meaning making. This caused the students to use their linguistic modes of communication to develop meaning. The students were eventually able to achieve this goal even though their access to all visuals were restricted.

Verbal dialogue alone limits meaning making.





The third task used a sequence of nine images divided out into three sections and distributed to each student. They could only see their own sequence of images in order because dividers were placed on the table to restrict their view of their partners' images. The students first observed their own images and made meaning of the short sequence they were given. Next, they shared with their partners what their sequence of images represented. After listening to each partner share their pictures, they attempted to order the sequence of events for the story. Once the images were in the proper order the students were able to view the other images and see the full story from beginning to end.

This task took the ideas of sequencing a story from the first task and incorporated the visual barrier from the second task. The individual student had access for full meaning potential within their own image sets. They were able to make interpretations and create meaning of their mini story based on what they could see. This is a significant element of this task because when I later asked for the students to make meaning of the other images, they could not see their partners' images. In this case, their visual modal access was stripped away. The students struggled to build interpretations and apply it to their own images. The images that were being described through verbal dialogue alone allowed for very limited meaning making. Additionally, the students could have been creating their own meaning based on the images that they had in front of them rather than drawing from the meaning that their partners were trying to share with them verbally. This task allowed students to use their full modal resources to make meaning of their own images; then, it limited their visual access to the other sections of the story, causing the students to rely heavily on verbal explanations to make meaning.

Task 4: Sequencing and Developing a Story

The fourth meaning making task took place on April 12, 2018 where the students would use skills from all the previous tasks to construct meaning. The objectives for the students included interpreting the images for meaning, determine the possible missing scenes, and then finally developing a visual representation of the missing information. The four illustrations, seen in Table 4.11 and Appendix G through Appendix W, were strategically selected from one culturally relevant book, *Ciquyam Pet'qerraallra* (Moses & Moses, 2013b) about the process of a young boy making his first seal catch.

Table 4.11: *Images Selected for Task 4*

Buttercup: Imagining seal hunting	Rex: Preparing for seal hunting	Aubree: Going seal hunting	Teacher: Celebrating the first catch
			

The four illustrations represent key parts of the cultural tradition of seal hunting yet they are spread out in such a way for students to consider what could be missing. The first illustration, “imagining seal hunting,” includes a vivid picture of what seal hunting might be like for this young boy. The next illustration, “preparing for seal hunting,” is a critical item needed for the long cold days spent out in the open water. The third illustration, “going seal hunting,” is depicting the process of hunting a seal. The final illustration, “celebrating the first catch,” represents the traditions that are still practiced today by some families after children make their first catch. The illustrations have rich cultural content selected on purpose to help promote discussion as well as personal connections. I was assuming that my students in general know

more about seal hunting given our geographic location along the coast as opposed to setting river nets which is commonly an interior activity. It was my expectation that my students would be able to identify elements that would be missing in between the different illustrations that we started with. The students chose their seats for this activity as seen in Figure 4.14.

I passed out the picture cards randomly to the students and I took the last image card as I

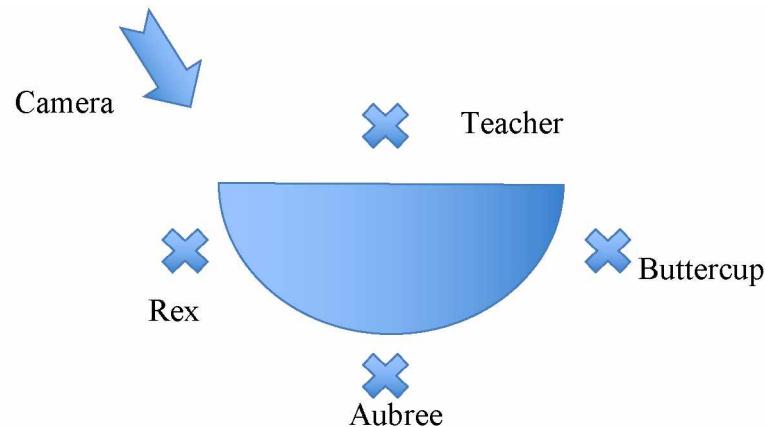




Figure 4.14: Seating positions for Task 4

shared the directions “Take a minute, take a look at the picture you have. Try and understand what’s going on in your picture. You can let other people see it.” Table 4.12 includes that name of the person who was viewing what image.

The students and I then took turns describing the image we had to the rest of the group. Throughout this process many personal connections were being made as students were discussing the upcoming *Yurarpak* or *Dance Festival*, where the community celebrates the children that have participated in their first catch or hunt and will be recognized by the community. This is a yearly event is an important celebration where people can remember loved ones through the name sakes that are being presented in the festival (C. Moses, personal communication, November 25, 2018). The students were discussing the different garments that they would need to locate in order to participate in *Yurarpak*. Once each illustration had been





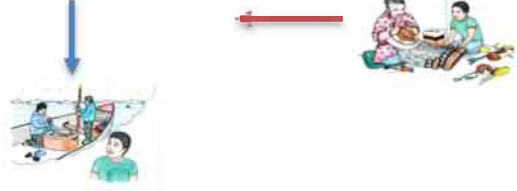






discussed with the group, I then explained how all of these pictures were from the same book. I prompted the students with, “this isn’t the complete story, so I’d like all of us, we’re going to try and figure out what parts of this story are missing.” We then discussed what the possible order could be for the images that we did have. Rex took the lead for the group and claimed that Buttercup’s illustration, “imagining seal hunting,” is first, followed by Rex’s illustration, “preparing for seal hunting,” third is Aubree’s illustration, “going seal hunting,” and last was my illustration, “celebrating the first catch.” The illustration order can be seen in table 4.12.

Table 4.12: *Rex’s Ordering of the Illustrations*

First: Buttercup: Imagining seal hunting	Second: Rex: Preparing for seal hunting	Third: Aubree: Going seal hunting	Fourth: Teacher: Celebrating the first catch
			

Excerpt 4.5 Rearranging the Order of Seal Hunting Illustrations.

Now that the illustrations were placed into an order, I then prompted the students to line up the illustrations in that order so we could view the story from beginning to end. I then begin to discuss with the students the next step which would be determining what parts of the story are missing and what could be drawn in to help make the story more complete. Just prior to the dialogue presented in Excerpt 4.5, I was in the process of describing the next steps of the activity. The students were listening me my explanation of adding in their own drawings to fill in the missing scenes connecting the four original illustrations.

Excerpt 4.5: Task 4: Rearranging the Order of Seal Hunting Illustrations		
Words	Kinesthetic	Pictures
001: T: there's missing parts throughout here\ so you guys know a lot more about [seal hunting] than [I do]	Aubree has her hands on the third and fourth image as she looks over at image one and two then down at her hands and back up to image one and two.	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">1 </div> <div style="text-align: center;">2 </div> <div style="text-align: center;">3 </div> <div style="text-align: center;">4 </div> </div>
002: A: [nahh] (moves her hands over to image one and two and starts to slide the images)		
	Aubree then moves image 1 by pulling it down and slides image 2 over to the left to be the first image.	
003: R: [yeah] (..) (watching Aubree move the pictures around)	Aubree looks at the order of the images and	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">1 </div> <div style="text-align: center;">2 </div> <div style="text-align: center;">3 </div> <div style="text-align: center;">4 </div> </div>
004: A: ohh (smiling) (Aubree starts to slide them back to the original order that Rex had developed)		

In the middle of my explanation, two students, Aubree and Rex were considering the order of the illustrations. Through my dialogue in line 001, Aubree held her hands on the third and fourth image, going seal hunting and celebrating the first catch. She looked down at the illustrations her hands were on and then looked over to the first two illustrations, “imagining seal hunting” and “preparing for seal hunting.” She then exclaimed “nah” in line 002 in the middle of my explanation and she lifts her hands off of the last two illustrations and moves her hands over

to the first two illustrations. She then pulled down the first illustration, “imagining seal hunting” and slid the second image, “preparing for seal hunting,” to the left as seen in Figure 4.15. I stopped explaining the directions at this point and observed the interaction that Aubree and Rex started. Rex was watching Aubree make this change and commented back at her “yeah” in line 003 as if expressing that ‘yes, my idea was correct.’ Now, Aubree is looking at the new sequence of illustrations and within a matter of a second exclaims “oh” in line 004, and quickly shifts the images back into the original order Rex created. Both Rex and Aubree laugh together as if it was comical for Aubree to have suggested the order of the story to be different. I did not question the students on their collaborative work; rather, I transitioned the students back into thinking about what possible images could be missing from the story.

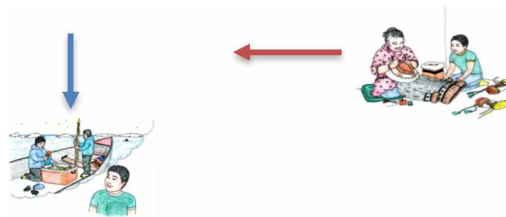

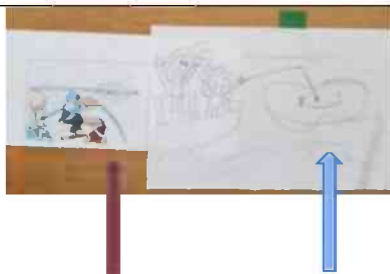




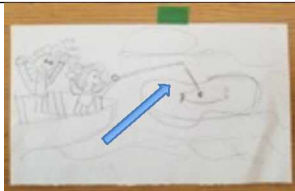
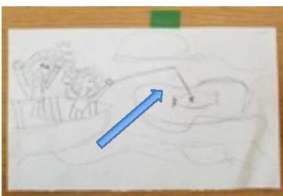


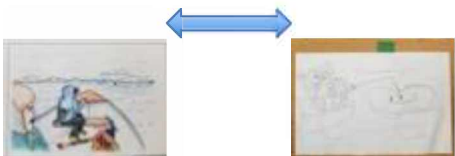
Figure 4.15: Aubree changing illustration order

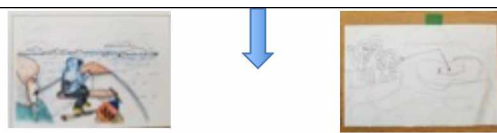

This very quick meaning making event models just how impactful the multimodalities are in the process of constructing meaning. Aubree utilized her special resources presented in the available design of the images to then redesign the story order. Through this new visual representation, she was able to see just how this new sequence could connect. There was also short verbal language used in this moment between Aubree and Rex. Aubree disagreed with Rex’s original order with a verbal “nah” as she went to switch the image orders. Rex only responded with “yeah” but said in such a way that implied his order was correct. Aubree could have taken this as a correction to her action and then changed back the images quickly.

Excerpt 4.6 “Have to harpoon it before it drown”.

I then physically separated the images to create a gap in between the second and third illustration to help explain my expectation for the students. Once the illustrations were separated the students understood the concept of creating the missing scenes and started to create pencil drawings on half sheet papers. At this point, Rex had now made two drawings already for the story and pushed his chair away from the table as if gesturing that he was done working. I was quick to grab a blank paper and offer it to him as motivation to keep going. He responded with an utterance “um hm” meaning no he did not want to draw another image. I realized that his drawings so far had all connected to illustrations that were close to his range of sight. I considered this and suggested to Rex that he look at the illustrations that were placed on the other end of the table. Buttercup had just completed a drawing and added into the sequence of illustrations. I motion with my arm in the area in front of Buttercup as a point of interest for him to consider what else would need to happen in the story. Excerpt 4.6 captures the dialogue which followed this above conversation. The illustrations drawn by the students used in Excerpt 4.6 can be found in Appendix H.

Excerpt 4.6: Task 4: “Have to harpoon it before it drown”		
Words	Kinesthetic	Pictures
008: R: This one (pointing with left hand at Buttercup’s picture labeled with blue arrow) would be right here (pointing with left hand in space between images labeled red arrow)		
009: T: You think (.) (pointing at Buttercup’s picture with right hand, blue arrow) they’d harpoon (pointing at “going seal hunting” image, red arrow) it and then they’re looking for [it/?] (gesturing hand out to the following image, blue arrow)		
010: R: [um] hm (yeah) (looking up at the teacher and raising eyebrows)	Aubree has also looked up from her work and is looking at both pictures.	
011: B: uh uh (no) they have to look for it (pointing to “going hunting.” blue arrow) and if they see it they have to catch it (pointing to her drawn image, red arrow)	Aubree looks back down at her paper and continues to work on her drawing	
012: A: [with what?] (quickly looks up and at the two pictures)		
013: R: [if they shoot it] (pushes away from the table and is walking back towards his seat)		
013a: R: on the water uh they-	Teacher points at Rex with her pencil	

014: R: <u>[have to harpoon it]</u> <u>before it drown (leaning on two</u> <u>hands on the table looking at the</u> <u>teacher)</u>		
015: A: <u>[what's dis one]</u> <u>(standing up and leaning into</u> <u>table to point at the detail in</u> <u>Buttercup's picture, blue arrow)</u>	Buttercup looking in the same direction as Aubree	
016: T: ok\ <u>(extending right arm</u> <u>out at Rex)</u>		
017: B: string <u>(looking up at</u> <u>Aubree)</u>	Aubree, is still looking down at the picture pointing with her pencil.	
018: T: so tell me more about that\ <u>(circling arm in clockwise</u> <u>motion at Rex)</u>	Rex is looking up at the teacher then back down at the drawings.	
018a: is- <u>(pointing at image</u> <u>labeled with blue arrow) did he</u> <u>shoot this seal here/?</u>	Rex is leaning over the table towards Aubree to look again at the image “going seal hunting”	
019: R: No after (.) <u>(starts to</u> <u>back away from the table)</u>	Aubree slowly shakes her head no as she sits back down	
019a: R: Closer and then <u>(sitting</u> <u>back down)</u>		
020: T: So what needs to happen here\? <u>(opening up a space</u> <u>between “going seal hunting”</u> <u>and Buttercup's picture)</u>		

021: R: ummm (looking across the table from his chair)	Teacher points at open space between pictures labeled with the blue arrow	
022: T: He (pointing at character in going seal hunting, red arrow) needs to do what to the [seal?] (points both hands at open space, blue arrow)		
023: R: [soot it]		
024: T: ah- you should draw a picture of that/ (pointing pencil at Rex)		

Rex gets up out of his chair to observe the images on the far side of the table in between Aubree and Buttercup. After observing the images Rex began to notice a change that he would make to the picture order. In line 008, Rex reacts to the sequence of images and stated “this one...” while pointing at Buttercup’s picture, number three in Figure 4.16 below, “...would be right here” now pointing under picture number one in Figure 4.16.



Figure 4.16: Rex’s reaction to Buttercup’s illustration

This proposal of a new sequence for these images caused Aubree to look up from her work and consider what the discussion is about. This proposed order confused me because I interpreted the change to mean the hunter would first harpoon the seal before finding and

locating the seal. Rather than telling Rex my interpretation, I restated his suggestion in line 009, “you think...” while pointing out at Buttercup’s drawing, picture three, then continued in line 009a, “...they’d harpoon it...” while pointing at the space between picture one and picture two labeled with a red arrow in Figure 4.16. I complete my statement in line 009b, “...and then they’re looking for it?” while pointing at picture two to see if I understood his interpretation correctly. See this exchange in Figure 4.16 below.

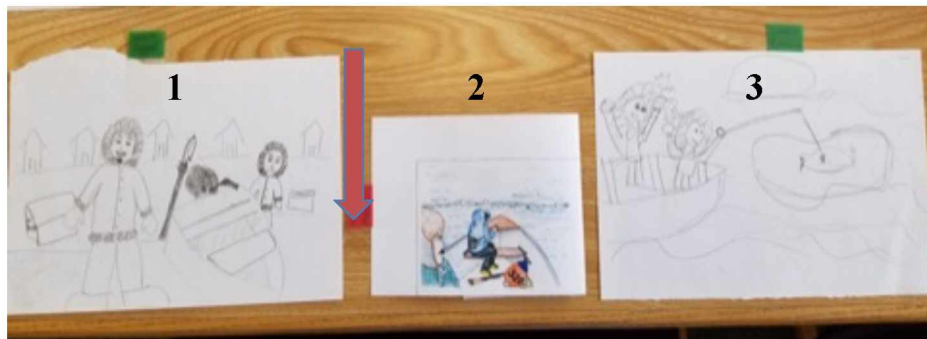


Figure 4.17: Teacher’s restatement and gestures in responses to Rex’s illustration order

When I first pointed at Buttercup’s picture, she had moved her drawn illustration, picture three, and picture two, “going seal hunting” creating small gaps in between the pictures. This kinesthetic movement of the illustrations could be a result of her insecurity and focused attention on her pictures causing her to want to physically create a space from her image in relation to the rest.

Rex responded to my statement with an utterance of agreement to this proposed idea “um hm” (yeah) in line 010 and with the gesture of raising his eyebrows. In the Yup’ik culture the gesture of raised eyebrows shows agreement which is similar to nodding one’s head up and down. Immediately, Buttercup disagreed with the idea and claims “uh uh, (no) they have to look for it...” in line 011 while pointing at the “going seal hunting” illustration. She continues,

“...and if they see it they have to catch it” in line 011 while pointing to her drawing seen in Figure 4.18.



Figure 4.18: Buttercup’s disagreement and explanation to Rex.

I was surprised to hear Buttercup defend her thinking and placement of her image with such confidence. This also sparked Aubree to question Buttercup and asked, “with what?” in line 012. I interpret Aubree’s question is a response to Buttercup’s idea of *catching it*. Buttercup does not respond right away causing Aubree to lean up onto the table to look at the drawing Buttercup made. Aubree questioned a specific element of Buttercup’s drawing stating, “what’s dis one?” in line 015 while pointing at the line drawn down to the seal in Figure 4.19. To this, Buttercup stated that it was “string” in line 017.



Figure 4.19: Buttercup and Aubree’s discussion about Buttercup’s drawing

Simultaneously, Rex has now leaned off of the table and walked back towards his seat as he shared with me “if they shoot it on the water uh they-...” in line 013 and 013a. I pointed my

pencil out at Rex the moment after he said *shoot* to which he continued his explanation, “...have to harpoon it before it drown” in line 014. I then encouraged him by saying “ok,” in line 016 and pointing back out at Rex with my pencil. I continued my verbal prompting, “so tell me more about that,” in line 018 while I gestured my arms around in a circle as a way to encourage more from Rex. I then quickly added, “did he shoot this seal here?” in line 018a, while pointing to the “going seal hunting” in Figure 4.20.



Figure 4.20: Prompting Rex by referencing illustration “going seal hunting”

He responded “no after, closer and then...” in line 019 and 019a while looking across the table at the pictures from his side of the table. After he sits down the teacher provides another question for Rex, “so what needs to happen here?” in line 020 while creating a visual gap in between both illustrations so Rex could see the area I was focused on discussing with him. Figure 4.21 represents the space made with the blue arrow. Rex leaned across the table thinking until I prompt him with another question, “he needs to do what to the seal?” in line 022 while pointing at the character in the front of the boat in “going seal hunting” and back to the open space between the images. The red arrow in Figure 4.20 represents my pointing the picture as I questioned Rex. His response overlapped with my question as he stated, “soot (shoot) it” in line 023. Rex pronounced the ‘sh’ sound in ‘shoot’ as an ‘s.’ I then prompted him with excitement by saying “ah- you should draw a picture of that” in line 024 while pointing my pencil at him.

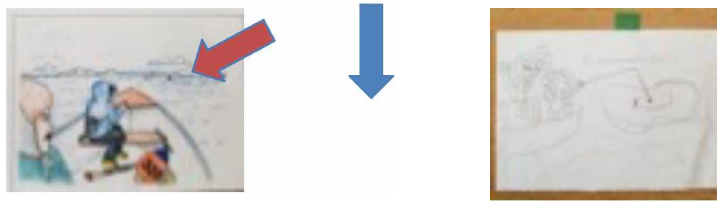


Figure 4.21: Teacher prompting Rex by creating a gap between the illustrations

It is through this dialogue exchange and critical look at the illustrations where Rex made the connection to a possible story progression that I understood to make sense. Because I had created my own interpretation of the illustrations, I offered prompts and questions that would lead Rex to the understanding that I had created. He was able to conclude my same vision from the images that the missing scene was the moment the hunters shot at the seal. With little hesitation, he pulled his chair closer to the table and went straight to work on his picture.

Once the students finished creating the missing illustrations for the story, the students and the teacher participated in retelling the events of the story from beginning to end. After talking about the story order the teacher then prompted the students to create a written reflection about one section of the story that was missing.

Having the tools for multiple interpretations and constructing meaning.

After further reflection in this excerpt, it is highly likely that multiple meanings were being constructed over the illustrations that were being developed to form the complete story. It is highly likely that not all interpretations were shared fully and therefore not understood by the full group. One area where multiple meanings were being constructed involves the dialogue that I had with Rex regarding the two images, “going seal hunting” and Buttercup’s drawn image. “Going seal hunting” is depicting the seal in the water with the hunters approaching and Buttercup’s drawing has the seal on ice as it is getting harpooned. Rex might have been

suggesting the illustrations needed to be switched because of the seal placement on the ice and not the actions that were being represented in the images. His explanation of shooting a seal in the water sparked this new interpretation upon this reflection. Maybe he is arguing that you could pick up the seal from the ice rather than harpooning the seal and if the seal was in the water, that is when you would want to harpoon the seal. I did not offer Rex the chance to fully express his thinking, rather, I took my interpretation and prompted Rex to see the sequence of images as I interpreted the story. As a result, we co-constructed new meaning together for the illustration and determined that an additional illustration needed to be created. I wish I had allowed Rex further opportunity to explain his thinking to learn more about why he wanted the order of the illustrations to change. The next time I experience a similar meaning making moment to this one, I would offer more wait time for my student and encourage more explanation before sharing my interpretations.

Additionally, this task allowed for full use of their semiotic resources throughout this task. The students were able to view all images visually, physically move the images around or closer to their view, discuss their ideas with others as well as ask questions, and they also were constructing and expressing the meaning that they were making through drawing in the missing images. Aubree took full advantage of these opportunities' multiple times throughout this task. First, she was interested original illustration order and was considering a new order to the story. If I could go back to this teaching moment, I would want to ask Aubree to explain her thinking for wanting to move the story around in this way. I am more curious to know what she was thinking and why this order of the story could have made sense to her even if it was for a brief moment. I wanted the students to determine the best order and if Aubree was encouraged to

share her thinking further here, it would have been interesting to hear the discussion that could have come from this change in sequence.

Designing meaning prompted a purpose for language.

The fourth task draws from the elements of the first and third task. I selected four images from different sections of one text. The students then observed the images free from any visual barriers. The students then developed images that were missing from the story by drawing a picture on paper. The students worked independently and collaboratively in the process of meaning making throughout the task. The students then discussed the story from beginning to end using the images to support their retelling.

This task added an additional level of creation when making drawn images seen in the mode of expression. The students were able to use spoken language to talk about the images which then triggered the need to add an image through their expressive meaning making process. Furthermore, the illustrations prompt multiple interpretations which means that multiple forms of meaning could be made regarding the same image, which was present in the first task. Throughout the creation phase of the task, students were interested in what others were talking about because this would affect what they were drawing towards the story. This use of the linguistic mode provided urgency for each student as they were trying to add their new image into the story. Their work was dependent on each other's drawings and the discussions helped clarify misunderstandings and questions to maintain a common interpretation of the story.

One example of how impactful the drawn images were in connection to the different interpretations is during the discussion I had with Rex regarding the seal in the water and then being harpooned on the ice. I pushed my idea and interpretations on Rex rather than trying to interpret the meaning he was making from the images. I am curious if the details in the images

were telling him one thing and my questions and prompting were providing a different interpretation. This means that visual images present a powerful part in the process of applying the different modes to meaning making.

Task 5: Understanding Similarities in Unseen Images

According to my original plan for task 5, I was going to have the students bring in a picture of their own to share with the group; however, I was not satisfied with the outcome of the

Name: _____

Activity 5 Journal Prompt:
In the table below list what is similar and different about the different images you see on your partners images.

Partner 1 _____ Partner 2 _____

Both

What do my partners say are in my image?

What could all these items could be used for?


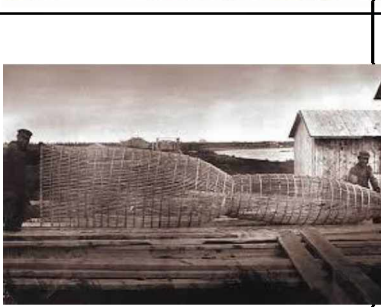

Describe a time when you would use the items found on your pictures:

Figure 4.22: Student venn diagram for Task 5

second task where I had the students identify similarities and differences of the illustrations they saw on their partners' backs. After reviewing the progression of task 2, I developed a graphic organizer and hoped it would help support the students in analyzing and naming what was seen as similar and different between the two images. Figure 4.21 is a screen shot of the document that the students were filling in. Appendix N has the full-size document.

I selected culturally appropriate images from different online databases that all connected to the theme of subsistence hunting. The images can be viewed in Table 4.13 below and in Appendix I. I was strategic with placing the images and used my own knowledge of each of the student's interests when selecting who would have each image. Rex had the image of the "Yup'ik hunter in a kayak wearing a hunting hat" (1928) because I felt he might be able to best interpret the descriptions that his partners would provide verbally. Buttercup had the image "Wooden Fish Trap" (Bethel fish trap, 1896) and I felt her partners would be able to describe this image clearly to Buttercup for her to make an educated guess of what this subsistence tool was. Aubree had the image "Tomcod Ice Fishing" (Waugh, 1935) because I had previous knowledge of her interest and participation with ice fishing from previous years working with her.

Table 4.13: *Images Used for Task 5*

	<p>Yupik man hunting in a Kayak wearing a hunting hat (1928) Taped to Rex's back</p>
	<p>Wooden Fish Trap (Bethel fish trap, 1896) Taped to Buttercup's back</p>
	<p>Tomcod Ice Fishing (Waugh, 1935) Taped to Aubree's back</p>

The students selected different seats for this activity reflected in the Figure 4.23 below.

Once each student was seated, I walked around to each student and taped the picture behind their

back. I then passed out the graphic organizer paper to all of the students and explained the task directions. The students were taking turns viewing the images they saw on their partner's backs.

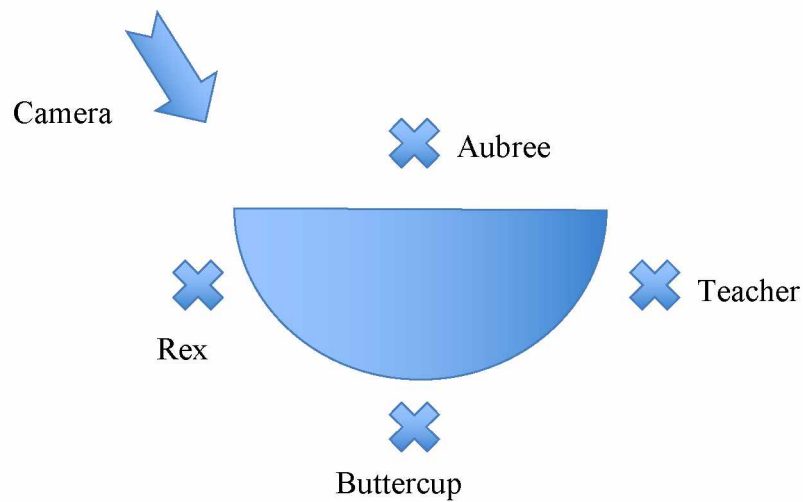


Figure 4.23: Seating position for Task 5

The first time working through this task, the students were not given much structure at all with how to make observations of their partner's pictures. This time I gave explicit direction for two students to turn around so one person could make clear observation and comparisons between the images. At the beginning of the lesson I said, "I changed the pages that we will record information on because before it was a little challenging for us to try and remember what we were seeing so as you guys notice things, you're going to write down what you see. And that will help us later on." I then had the students write down their partners' names on the graphic organizer before I continued explaining the task. Each circle on the Venn diagram represented one of the pictures behind that student's back. I picked up Buttercup's paper and said "Let's use Buttercup's as an example. Buttercup is going to look at Rex's picture and Aubree's picture. She is going to see 'what does Rex just have in his picture?' 'What does Aubree have in just her picture?' And then she is going to think 'what is it that they both have in common?'" As I

explained I pointed to Buttercup's Venn Diagram as a reference to where she would be writing information.

Buttercup then volunteered to look at the pictures first so I instructed for Aubree and Rex to turn in their chairs so Buttercup could see their backs. I began by walking Buttercup through observing one picture at a time and helping her write down what she was seeing in her visual organizer. We then looked at the next picture and Buttercup made notes on her paper regarding what she saw. I instructed Rex and Aubree to turn back around in their chairs after Buttercup finished writing down their observations and I asked the question "What do they have in common?" and follow up with "What's similar about both of them, a man is seal hunting and a woman is *manaq-ing*" reading from Buttercup's notes. The students all think for about five seconds and Rex then shares "hunting" and we agree that this could describe both of these pictures.



We continue to work our way through each student with Rex making observations on both pictures next. Rex tried to conclude the similar element is "ice fishing" across the two pictures, however, this was not true. I prompted Rex to examine the pictures again to make sure this conclusion is accurate. When he observed the pictures again, he also noticed he was missing the phrase ice fishing from his graphic organizer and wrote this information under Aubree's circle. He then noticed Buttercup's image has a net and wrote down this observation. I encourage Rex to make these notes on his page and prompted Aubree to now make her observations to support the discoveries that Buttercup and Rex have been identifying.

Aubree looks at both of her partner's pictures before she started to write. Aubree made her notes without discussing with the teacher or her partners. I then encourage the whole group to support Aubree in identifying the similarities across the two images. Before Aubree wrote

down a similarity, the conversation shifted to discussing each of the elements of the images with more detail. The students name items such as the *nutek*, translated as gun, harpoon, net, and kayak in an effort to identify a possible object that could be similar across the images.

Excerpt 4.7 “It’s a black fish trap”.

Excerpt 4.7 from Task 5 includes the dialogue surrounding the image behind Buttercup which they identified as the net.

Excerpt 4.7: Task 5: “It’s a black fish trap”		
Words	Kinesthetic	pictures
122: T: What are they using in Buttercup’s picture (<u>pointing at Buttercup’s back</u>)	Buttercup turns in her chair so Rex can see her picture *Aubree is getting a drink of water at the classroom sink	
123: B: net		
124: R: net		
125: T: is it really a net though\?	Buttercup turns back around in her chair	
126: B: no\ (<u>looking at teacher</u>)		
127: T: look carefully at it (<u>tapping on the table and looking at the students probingly</u>)		
128: B: I’m [<u>squishing</u>]		
129: R: [<u>I forgot what is</u>] it like up der\ (<u>extending his left arm up and pointing towards the ceiling beyond Aubree’s seat</u>)		
130: T: What is that called/? (<u>pointing my right hand up in the same direction as Rex</u>)		

wanted the students to use a different word to describe this object rather than net so I continued to question, “is it really a net though? In line 125. Buttercup stated, “no” in line 126 responding to the tone in my question as she turns back to face the group. Again, I prompted the students, “look carefully at it” in line 127 and I started tapping on the table and looked at the students with a probing gaze. Buttercup then made a comment in line 126 that is not related to the discussion of the picture. This comment overlaps with Rex’s thought, “I forgot what is it like up der” in line 129. He pointed his left arm up towards the ceiling beyond Aubree’s seat. Rex made a visual connection with the two-dimensional image with his awareness of the three-dimensional object that was present in the school building. I then stated in line 130, “What is that called?” while pointing my right hand up in the same direction as Rex. I continued in line 130a, “should we go out and look at it?” as Aubree made her way back to the table at her seat. As soon as I finished asking this question, the students all stood up from their chairs and Buttercup expresses “yeah, yeah, yeah” with excitement in line 131. Aubree also states “yeah” in line 132 and we all walked towards the classroom door that leads out into the commons where the object is hanging. I also asked again, “What is that called?” as we walked out towards the door in line 133.

Before we see the object, Aubree stated, “no, it’s a black fish trap” in line 134, making a full connection with the two-dimensional image and the three-dimensional object in the school. Once the connection between the picture and the object had been made, Aubree was able to identify the proper name for this item. Buttercup expressed her excitement in seeing the object by saying “not- I mean” in line 135 as we all gathered under the object in the commons area of the school. Aubree again stated “it’s a black fish trap” in line 136 as she looked up at the trap. Buttercup then observed, “it’s a big trap” in line 137 while also gazing up at the trap. Responding to Aubree’s statement, I said, “oh is that, is that what’s on Buttercup’s picture?” in

line 138 while referring to the physical object we were looking at. Rex answered my question by saying “yeah, made from stick” in line 139.

The students then continued to describe what they noticed about the physical trap and were making claims as to how they thought the trap worked. We soon went back into the classroom to record the new information in the graphic organizer regarding Buttercup’s picture which was a black fish trap rather than a net.

I found this exchange to be exciting because I did not plan to incorporate the three-dimensional object into the discussion, yet the student’s awareness led us to observe the physical object at our school. I find this impactful to the meaning that the students were making surrounding the images that we were using. Rex gave the object seen in Buttercup’s picture a name of a net at first. When prompted further to think about what the object truly was, Rex was then able to recall the physical object inside the school. This then triggered Aubree to know the correct name as a black fish trap. This is impactful to the use of collaboration and the use of the modes that were available to my students when determining the proper name of the trap. It is also interesting to hear the excitement that Buttercup expresses in going out of the classroom to see the physical object because she has not seen her picture yet.

Excerpt 4.8 “What is the picture?”.

Before taking off their pictures, I had the students work on answering the first question under the Venn Diagram, “What do my partners say are in my image?” I modified this question with the students to read “What is my image?” I had the students write in this new question on their papers before we moved on. Excerpt 4.8 includes the discussion the students and I had when answering the first response question.

Excerpt 4.8: Task 5: “What is the picture?”	
Words	Kinesthetic
001: T: So you’re answering without looking at your picture/ you’re tryin’ to figure out what’s behind your back\ based on what your partner [said]	moving hands in a circle as I say ‘trying to figure out’ and point with my finger to the students when I say ‘you back’
002: B: [what] was that one/?	Buttercup gets her pencil and paper to start writing then looks away from her paper *Rex gets to work right away writing on his paper.
003: R: (mumbling in background inaudible)	
004: B: a black something\ umm-	then Buttercup looks up at the teacher.
005: T: ask your partners\	I direct her to ask her partners. I then look over to Aubree who has not picked up her pencil to write yet.
006: R: (mumbling “it is” as he writes)	
007: B: what was it/?	Buttercup looking up at Aubree and Aubree looking back at Buttercup
008: R: (mumbling “about the sea” as he writes)	
009: B: black net trap	She is trying to think of the correct wording while looking at Aubree.
010: A: no\ black fish trap (.4.)	Buttercup looks away from Aubree and towards the teacher. Aubree is looking at Buttercup as she corrects her
011: R: (mumbling “hunting” as he writes)	Rex writes <i>with</i> first then goes back and erases the ‘e’
012: T: Aubree do you remember what your picture is/ (..) ask your partners/	I look at Aubree as I talk to her.
013: A: What is about the picture\ What is the picture\	Aubree turns and looks at Rex as she asks her questions. Buttercup looks up from her work and looks at Aubree. Buttercup makes the motion of manaryaq (jigging) Aubree looks over to Buttercup
014: B: manaq-ing (.)	Buttercup raises her eye brows before saying manaq-ing. Aubree picks up her pencil the then write

I prompted the students in line 001, “So you’re answering without looking at your picture. You’re tryin’ to figure out what’s behind your back based on what your partner said.” Buttercup overlapped with my last word and asked, “What was that one?” as she reached for her

paper and pencil to start writing. Rex also grabbed his paper and started to answer the question. He spoke in a mumbled quiet voice saying what he was writing. Buttercup then attempted to state what her image was in line 004, “a black something, umm” while looking at me for help. I prompted her in line 005, “ask your partners” to get support from her partners. Buttercup looked across the table at Aubree and asks, “What was it?” in line 007. Buttercup again attempted to state her object in line 009, “black net trap” questioning her thinking and looking at Aubree for support. Aubree then replies in line 010, “no, black fish trap.” Buttercup then looks back at the teacher before turning to her paper to write. It seems Buttercup wants the reassurance from me before writing down the response that Aubree had provided.

About four seconds of silence goes by before I asked Aubree in line 012, “Aubree do you remember what your picture is? Ask your partners” because she had still not written anything down on her paper. I didn’t want Aubree to get too far behind her peers and I wanted her to ask her peers for support. Aubree quickly asked “What is about the picture? What is the picture?” in line 013 not specifically directed at any particular partner to answer. As Aubree asked her question, Buttercup begins to make the motion of jigging for fish by lifting up and down her pencil. I found this kinesthetic response to be intriguing and helpful for answering Aubree’s question. Buttercup follows up with stating, “manaq-ing” in line 014.

This excerpt shows the students using their linguistic resources to support their written reflections. Buttercup also uses kinesthetic movement to represent the action of ice fishing which supports Aubree in remembering what her image was about. Buttercup also included a verbal response and stated what Aubree’s image was.

Realizing task design will influence meaning making.

After reviewing these excerpts, I noticed that the students were constructing meaning together, however, the design of keeping one image out of view from the student does not support their own meaning making capabilities. The first excerpt represents this idea through the reaction Buttercup had when I asked the students if they wanted to walk outside of the classroom to view the object that represents her image. She was very excited to go out and see the object because she was the only one who has not yet seen the image behind her back.

Given the design of having information out of the access of the learner, the task design might have been more effective if I had structured the students to simply ask questions to learn more about their image. By having the other students observe the images behind their partner's backs, they were the ones constructing meaning, and not the person with the image taped to their back. It was only in the short discussions about what was similar, did all the students work together using their linguistic resources to make meaning. This leads into the challenge of the second excerpt as well. Buttercup still did not have a clear understanding of her image even after seeing the 3-dimensional object outside of the classroom. I believe this is due to her restricted access to the image and was unable to connect the purpose of seeing the physical object because she had not seen her image yet. Aubree and Rex were able to build clear interpretations of Buttercup's image because they could see her picture and they were able to apply their understanding to the physical object in the school. I believe that the students' access to all the information will allow for lasting meaning making that can then be applied.

I wonder if I had structured the task differently to allow the students to observe one image at a time so they would all have the same semiotic resources available to their use when

making meaning. Then after making their observations together as a group develop the similar connection across all three images.

Limited visual information restricts meaning making.

The fifth task was a revised version of the second task. The students again had one image taped to their back that had one unifying element relating to subsistence yet distinguishable features that made them each a different tool for hunting. The students were provided a structured Venn Diagram to help organize the information they observe for each of their partner. The students make note of what they saw for each partner on one side of the Venn Diagram. Then, as a group, they talk about what was similar between the two images. The first student making the observations wrote down any connections they made between the two images in the center of their Venn Diagram. After each student observed the images, they wrote about what they thought their image was. Next, the students took off their pictures and we then listed out what tools were seen in each picture. The students then discussed how the images all related together before writing a final reflection regarding a personal connection to one image.

This task still created challenges because it limited my students' access to their full multimodal resources when trying to create meaning. The visual graphic organizer and discussion surrounding the objects within the images held interesting moments for meaning making to take place; yet, the purpose of having the image out of sight of the learner did not hold any more value to the interpretation of the image. This task limited access to visual information which ultimately limited meaning making potential. The design of the task was also flawed because the intention was to identify the similarities across all three images and by limiting one students' access to one image, I restricted their meaning making abilities.

Conclusion

Each of the tasks offered key meaning making moments that presented critical findings meaning making. In the first task the images were the first modal resource that supported the students' meaning making. The second task restricted the students' modal access because they could not see all of the images which lead to limited use of complex language and meaning making. In the third task the students were able to develop a multimodal interpretation of the images they could see and restricted their ability to make meaning of the other images due to them not seeing the other images. The fourth task the images were again the first modal tool used by the students which supported multiple interpretations supported by the student's funds of knowledge. The fifth task used a new structure for recording observations yet was still designed was flawed for the meaning they were making regarding their partner's images rather than the image that was behind their back. In the end, it is evident that these culturally relevant social semiotic tasks provided meaning making opportunities for the students.

Chapter 5: Discussion and Implications

This study focused on learning more about how students construct meaning through tasks that use of culturally relevant images. I wanted to learn more about how my students, as ELL learners as well as students with an IEP, develop and construct meaning. The following question guided my research: How do sixth to eighth grade students co-construct meaning when doing tasks that incorporate culturally appropriate images? The goal of this research was to investigate the use of tasks as a method of creating collaborative opportunities for students to construct and express complex meanings. This study used culturally relevant images from the *Piciryaramta Elicungcallra* book collection. Through the process of this research I learned that my students benefit from multimodal task designs. I also found that when my students were given the opportunity to draw on multiple modes, they were more likely to develop meaning and share their ideas with others.

The five tasks in this study provided insight about how collaboration impacts meaning making. When initially developing my tasks, I created tasks that required students to order and compare information, solve problems, or, create information to complete the task. I discovered during my analysis and reflective process that the design variables described by Ellis in his most recent work (2017) also played a very important role in students' performance of each task. I also learned that tasks are dynamic and could provide new insights to Special Education practices.

Research Findings

The analysis of the vignettes presented in Chapter 4, reveal dynamic meaning making moments which led me to three key findings. First, it is evident that meaning making is a multimodal design process. The students utilized as many multimodal resources as possible to

support their meaning making. Second, the incorporation of culturally appropriate images allows students to draw on their funds of knowledge, resulting in high engagement throughout the task. Finally, the role of the teacher as the designer of the task is critical in the overall structure of the task as well as the defining purpose of the task. The following sections elaborate on each of these points.

Meaning making is multimodal.

While some researchers (Ellis, 2003; Swain, 2000) focus primarily on the linguistic resources learners use during tasks, this research revealed that multimodal resources supported the process of meaning making. Jewitt (2011) explains multimodalities as resources for newly created understandings where “meanings are made, distributed, received, interpreted and remade” in such a way that all modes are utilized in the process of developing meaning (p. 14). It is in this way that meaning making goes beyond the use of only language and also includes the use of visual, gestural and expressive modes. The following sections will explain the role of different modes and how they played a critical role in my students’ meaning making process.

Kinesthetic mode.

The first example of students heavily relying on the kinesthetic mode comes from Task 4 where they use the ability to move pictures around in order to negotiate the sequence of events. In Excerpt 4.5: *Task 4: Rearranging the Order of Seal Hunting Illustrations*, we saw that Aubree was looking at the four illustrations placed in the order determined by the group. Aubree was considering a different illustration progression and therefore rearranged the images in a different order without verbally explaining her thinking. She was able to kinesthetically move the images around to support her interpretation. Aubree then took another look at the new order and quickly

determined that this order was not what she had intended after all and quickly rearranged them back.

The students had full access to all images, having the ability to move them around the table, and to be able to observe the images in multiple line ups. According to Jewitt (2011), the use of all the modes is “enabling people to see how a ‘reality’ comes to be represented and offering the potential to imagine it differently and to redesign it” (p. 23). By sharing full access to all the images, and being able to choose the modality best suited to the task, Aubree and the other students were able to develop interpretations based on their complete repertoire of meaning-making modes. All of the illustrations, together, provided critical information for the students’ meaning making process. Specifically, in this case, the kinesthetic mode of rearranging the illustrations carried the greatest meaning-making potential for establishing the order of events.

Visual mode.

Second, the illustrations themselves presented different qualities which allowed for multiple interpretations. In Task 1, sequencing images and developing a story, Aubree interpreted the image “setting up to play” as if the game had not started yet and the children were running around the field before the start of the game (see Excerpt 4.1 and 4.2). Buttercup thought that the image “setting up to play” showed as the kids spaced out on the field because they had already started the game. The affordances, or meaning making potential, of the image was interpreted differently for by these two students. One reason for this could be because the characters in these images are positioned in the background rather than the foreground. According to Kress (2010), the spacing and quality of the image is highly impactful in the way the meaning is interpreted. This means that the details within the image are ambiguous and

therefore multiple interpretations are possible. As Serafini (2011) points out “meaning is derived from position in the temporal sequence of written text, whereas meaning is derived from the spatial relations or grammar of visual images” (p. 343). This means that within these multimodal tasks, the students were considering multiple elements within the illustrations to develop their interpretations. The composition, perspective, and visual symbols all contribute to meaning (Serafini, 2011) and in this case, Aubree and Buttercup developed different interpretations of the same image. I had also assumed that Aubree’s order was correct because at the time during the task, I was unsure of the meaning Buttercup was trying to express. By critically reviewing and analyzing the process of multimodal meaning making that both Aubree and Buttercup developed, I now understand that they have developed multiple interpretations of the same image rather than one person being correct.

Language as a tool in conjunction with visual mode.

Finally, language as a tool was another modal resource used to support meaning making. Task 2, similarities and differences of an image unseen, included a moment where Aubree structured a response based on the images she was observing (see Excerpt 4.3). Aubree bounced back and forth from Buttercup’s picture and Rex’s picture trying to verbally explain what she saw in both images. The images prompted Aubree to use language as a tool which build a stronger understanding of each image. Aubree took her time to note what she saw in both images and was pointing at the images as she spoke.

This tells me that through in conjunction with drawing on visual and gestural modes, Aubree was able to use language as a tool to describe what she saw in both images. The pictures supported her meaning making. Through the use of her funds of knowledge and language, she

then was able to structure a verbal response for the group to take note of. This has taught me that images promote meaning making for my students, which can then lead to a linguistic response.

Design variables in multimodal meaning making.

This research has made me more aware of the complex meaning making process and how the different modes impact the meaning making potential for each student. When the students had access to their full repertoire of modes, the learning that took place was rich. The multiliteracies design cycle has shown me that constructing meaning is a cyclic process in an expanding world of developing technologies (Cope & Kalantzis, 2009). Furthermore, multiple modalities provide for numerous ways to construct meaning through images, writing, gesture, and spoken language (Jewitt, 2011; Kress, 2010). This means that teachers should address literacy teaching as opportunities through which learners engage in multimodal meaning-making moments. Many public schools are not designed around the specific needs of individual students. It is more common to find a school highly influenced by state testing scores and selecting teaching curriculum that is thought to shrink the gaps present from state testing. While this is an important factor, we should also remember the unique background of each student rather than lumping them together in one group. What if schools dug beyond the data points and considered the learning progress of the children? I wondered how images, as a modal resource, could be used to support language development enhances student thinking rather than as a crutch for students with a disability. I believe that all students could benefit from the careful attention from an educator who understands multimodal meaning making and task design as a way to further enhance student progress.

When designing tasks, teacher have to consider a variety of design variables (Ellis, 2017). Task design played a critical part in the multimodal meaning making potential of the various

tasks I developed for my students. My focus for each task was to have my students utilizing the linguistic mode with purpose in sharing the information presented through the task. However, I found that, based on how the task was designed, the use of spoken language would vary greatly. Throughout the analysis of my data, I discovered the usefulness of the design variables that Ellis (2017) identified (see Table 5.1).

Table 5.1: *Task Design Variables in Relation to Task Focus, Adapted from Ellis (2017)*

Design Variable	Description
Shared Information	Whole group has access to all information
Split Information	Information is distributed among participants
Open Outcome	Multiple resulting answers
Closed outcome	One possible solution
Linguistic Mode	Use of semiotic resources including listening, speaking, reading and writing to describe, instruct, narrate, or argue
Topic Familiarity	Range of familiarity where funds of knowledge are used to support meaning making

For example, the structure of Task 1 of ordering the shared illustrations did not promote the use of language to communicate meaning for my students. My students relied on the visual illustrations to determine what order to place them in without explaining why the illustration belonged where it was placed. It was not until I had my students place the illustrations back out on the table and explain each illustration from beginning to end that they used their linguistic mode to communicate what they thought the illustration was representing. It was also in this moment, where multiple interpretations were discussed, and the students started to realize that there could be more than one way to read the illustration. In contrast, Task 2 had split information, where an illustration was taped to the student's back. The idea behind using split information in this task was to promote more spoken dialogue as the main form of communication and construction of meaning. What I discovered, was that by using split

information, my students were restricted in their use of modes and available designs. The students could only rely on what they saw visually on their partner's back as well as what was communicated to them through the linguistic mode. It was very challenging for my students to attach the information that was being shared through the linguistic mode to the idea of what their illustration looked like which was out of their view. Task 2 resulted in confusion, frustration and limited understanding of the illustrations behind their back.

Ellis (2003) believes that tasks should use language to cognitively process the information in a task. Swain and Lapkin (1998) also focused on the linguistic mode of communication when constructing meaning. In my research, I included the examination of the multimodal meaning making that my students constructed as they participated in the tasks. I observed how their movements, gestures, construction of visual illustrations as well as conversation with each other supported their multimodal meaning making events. This causes me to consider the success of Task 1 and Task 4 to be most supportive to the multimodal meaning making. Was this a result of the task being shared information? Was this because Task 1 and four had open outcomes? Task 2 did not have a clearly defined outcome. Maybe that was the reason why Task 2 resulted in so much confusion. I believe the success seen in Task 1 and Task 4 are a result of the task using shared information, which provided the students the opportunity to use their full repertoire of modal resources. Aubree was able to manipulate the illustration order in Task 1 so that she could see her thinking before she then explained her thinking to the group. Buttercup used gestures in Task 1 to support the meaning made from the illustrations. Aubree changed the order of the illustrations in Task 4 to investigate a possible alternate order for the illustrations without explaining her thinking. Also, during Task 4, Rex developed differing interpretations of the illustrations and verbally stated that the illustrations

should be placed differently. In all of these examples, the students were able to base their thinking on all of the resources that were provided, as well as to utilize their full multimodal meaning making systems to construct their own interpretations.

According to Abraham and Farias (2017), “multimodal literacies provide adolescents with a means to explore and express their identities, to improve their academic language, to develop critical literacy and perspectives, and to connect in and out of school experiences” (p. 64). It is important, then, for teachers to consider how their instruction provides opportunities for students to access and utilize their different modes when constructing meaning. This requires educators to add in some additional reflection to their lesson planning to consider the following questions. How will my students engage with the content objectives? Are there opportunities for students to work through the designing process? What modes do I anticipate students utilizing when engaging in the task? I believe these questions are critical for educators to consider as they prompt a critical view on the design of lessons and how students will participate in their learning. Without the consideration of how students will interact with their learning, the tasks become exercises where students are only doing work because they must.

Culturally responsive teaching supports funds of knowledge.

Each of the tasks utilized culturally relevant images. I noticed that each student was able to contribute ideas based on their unique cultural funds of knowledge. For example, Task 4, sequencing and developing a story, required the students to interpret what information was missing from the story and create those missing illustrations. When completing Task 4, the students were listening to one another, naming and describing elements they saw, asking questions, and creating what they thought fit into the story. The students were applying their

funds of knowledge, or their skills and developed interpretations gained from their household (Moll, 1992).

One key example of how funds of knowledge impacts meaning making is seen in the discussion of the illustration “going seal hunting” (see Excerpt 4.6). Rex and I had developed different interpretations of the illustration, “going hunting” as well as Buttercup’s drawn illustration which was placed after “going seal hunting.” Rex was interested in changing the order of “going seal hunting” and Buttercup’s drawn illustration of harpooning the seal. Rex was unable to clearly articulate why he wanted to change the order yet, when reflecting on this interaction, I believe Rex was considering his funds of knowledge of seal hunting. I believe Rex was considering different information within the illustrations, “going seal hunting” and Buttercup’s drawn image which caused him to consider a different arrangement for the illustrations. The seal in “going seal hunting” was in the water and I wonder if based on his funds of knowledge, he knew that the next image would not be the seal up on the ice, as Buttercup had depicted the image. Rex also could have been eluding to the fact that when a hunter goes out seal hunting, they might catch more than one seal. Maybe by placing Buttercup’s illustration first, the hunters have started the process of catching seals and the illustration “going seal hunting” is capturing the moment of finding a second seal. By suggesting switching the order of the images, I believe Rex was drawing on his knowledge of hunting. These were connections to knowledge that I and the other girls who were participating, did not have.

This led me to prompt Rex to understand my interpretation of the illustrations based on my limited understanding of seal hunting. I thought the next logical drawing should represent the hunters shooting the seal before it is harpooned. In doing this, I prompted Rex to agree with

my interpretation of the images, and I had him draw an illustration of the hunter shooting the seal in the water. This complex meaning making was possible because Rex has cultural funds of knowledge relating to seal hunting.

This finding brings me back to Moll's (1992) question, "how (and why) children come to use essential 'cultural tools,' such as reading, writing, mathematics, or certain modes of discourse, within the activities that constitute classroom life" (p. 21). The funds of knowledge that Rex is using is unique to the social networks he interacts and from which he learns. This task allowed me to see that within the cultural practice of seal hunting, there can be varying methods and ways of completing a task (Moll, 1992). This is evident in the multimodal discussion Rex and I had regarding seal hunting.

Task topic familiarity and how it supports funds of knowledge.

Topic familiarity could be thought of as a gauge in the process of developing a task; low familiarity would include a topic or concept that is newly introduced, and high familiarity would reflect a topic that is already understood by the student. The task design variable, topic familiarity (Ellis, 2017), is a critical element that teachers need to consider when creating and developing tasks. High topic familiarity provides the opportunity for student to access their funds of knowledge to support their meaning constructed when performing the task (Ellis, 2017). I thought that the more familiar my students were with the given tasks, the more success they would have with performing each task. In fact, that was one of the reasons for choosing cultural images in the tasks. Through my analysis, I discovered the importance of having an open outcome in addition to high topic familiarity in order to attain high levels of student engagement and meaning making opportunities. This can be seen in Task 4 when Rex expresses his ideas regarding seal hunting to the group and Buttercup engages in the discussion of the illustrations.

The students had a lot to say about the cultural practices and were eager to share their thinking and drawings. Task 2 and Task 5 also used content that was familiar to the students; however, the task outcome was not clearly identified.

Educators should consider the gauge of topic familiarity when developing lessons. In my experience with developing tasks, I believe that educators should begin with a task with high familiarity as well as an open outcome and shared information. In my study, I found that this combination of design variables was most successful for my students. I found that basing a task on split information presented as a higher challenge for my students, even if they had a high degree of topic familiarity. They were still learning the process of tasks and I was assuming my students would be able to grasp the idea simply because it was using a topic they are familiar with. Educators should wait to use split information with their students until their students have a strong grasp for performing tasks. Additionally, teachers should anticipate and prepare for varying outcomes when developing a task with split information.

Based on my training and knowledge of *Visualizing and Verbalizing* (Bell, 2007), a question to now consider is, how can culturally relevant images support comprehension? I wonder how tasks and culturally relevant content could lead to success for my students as they develop their reading and comprehension skills. Based on what I have observed, the cultural illustrations supported my students meaning making. I am curious if cultural images are a mediating tool supporting meaning making. Maybe this mediating tool could then progress into comprehending written text over time. This leads me to believe that through culturally relevant images, I can stimulate powerful meaning making opportunities as well as students' literacy development. As Abraham and Farias (2017) discuss, "in multimodal texts, a reader's attention to visuals is used for their meaning potential in understanding the text as a totality and not

merely for pointing to their ornamental, aesthetic, or ancillary functions” (p. 63). Through the use of multimodal text, I can support students to become flexible meaning makers as well as learners who effectively utilize the various modes to develop meaning.

Contributing factors of teachers as task designers.

The role of the teacher as the task designer is critical in educational contexts. Tasks have four main parts according to Ellis (2003) which include a focus on meaning, a gap, learners rely on their own semiotic resources, and a clearly defined outcome other than language. I found drastic differences in the performance of the different tasks and this caused me to review the design variables present within each task. Table 5.2 lists the different classifications for each task as well as the design variables that were discovered for each task.

Table 5.2: *Task Classification and Design Variables*

Tasks	Classification	Design variables
Task 1: Order ten images	Ordering	Shared information Open outcome Linguistic mode (listening and speaking) High topic familiarity
Task 2: Comparing unseen images	Comparison	Split information Linguistic mode (listening and speaking) Topic familiarity
Task 3: Order of nine series story	Ordering Problem solving	Split information Closed outcome Linguistic mode (listening and speaking) Topic Familiarity
Task 4: Sequence and develop Story	Ordering Problem solving Creative Task	Shared information Open outcome Linguistic mode (listening, speaking and writing) Topic Familiarity
Task 5: Redo of Task 2	Comparison Problem solving	Split information Linguistic mode (listening, speaking and writing) Topic familiarity

Given the use of culturally relevant illustrations in all of the tasks, the students were able to utilize their funds of knowledge. This means that every task was based on high topic familiarity. Additionally, all tasks were developed with oral dialogue in mind, so each task the

oral linguistic mode for communication. Task 1 required the students to order a set of 10 illustrations and develop a cohesive story from the images. While reflecting on Task 1 design variables, I noticed that the students had shared information meaning that all of the students could see and manipulate all of the illustrations. This task also had an open outcome meaning that the final product could be presented many different ways based on the use of the illustrations without text. Task 2, comparing unseen images, had the students sharing observations and naming elements from the images on their partner's backs. The design variables present in this task included split information, meaning the students could not see all of the information used for the task and they were relying on the use of the Linguistic mode of communication. Task 3 allowed the students to view only three illustrations of a total nine-image story and the students needed to collaborate to determine what the order should be. The design variables for this task also included split information as well as a closed outcome because there was only one correct way to order the story. Task 4 had the students working with only four images to sequence and then creating images through problem solving what information was missing from the story. The design variables included shared information, because all of the students could see all of the illustrations as well as an open outcome given the creation of missing illustrations. Task 5 was a recreation of the second task using a structured graphic organizer to support the students as they tried to figure out what was in their own picture by talking about the pictures as a group. The design variables included split information again because not all of the information was shared equally among all of the students.

Design variables supporting structure and purpose.

The structure or the design variables used for the task directly relates to what kind of meaning is going to be made from the task. I noticed that a shared-information design was a

critical factor involved in the success of a task. For example, the design of Task 4 including shared information, an open outcome, use of the oral linguistic mode, and high topic familiarity. These combined features allowed for collaboration and multimodal meaning making from beginning to end. The task was structured as a shared, problem solving event that required the students to order the illustrations as well as creating images that were missing (Ellis & Shintani, 2014).

Furthermore, the task elements were clearly present in Task 4. The students understood that the primary focus of meaning was to interpret the illustrations and then develop a complete story progression. I believe this clarity of purpose provided a strong foundation for the students so they could fully apply all modes of meaning making to all elements of the task. The students were also critical about the details within the illustrations and used comprehensible output to support their meaning making process when facing gaps in the story progression. The students utilized their own semiotic resources throughout this task. They were using all visuals, oral language, gestures, accessing their funds of knowledge as well as developing the story through the expressive mode.

One example of how the students utilized their own semiotic resources was seen between Aubree and Buttercup. Aubree questioned the image Buttercup drew of the hunters harpooning the seal on the ice. Aubree was gesturing at the line Buttercup drew coming off of the harpoon as the element in question. Aubree experienced a meaning gap based on the details that were presented in the illustration. Buttercup was able to explain this drawn detail was the string from the harpoon. At this point, Aubree understood the illustration and was able to understand the drawing as Buttercup had intended. Because Aubree and Buttercup both had full access to the illustrations, they both could discuss the elements together using the visuals, spoken language,

and gesture as the modal tools. The modal affordance of the image in addition to the oral exchange, allowed Aubree to develop a new understanding for the meaning of Buttercup's image.

This clear focus on meaning provided for a clear and defined outcome for the task. The students understood that they were to create a complete story. The purpose of the task was to create the missing scenes to develop a complete story. The students understood this expected outcome after they discussed the four provided illustrations. Having a clear outcome other than the production of language is one of the four parts of a task. By developing a clear outcome seen in Task 4, the students were able to clearly understand what was expected of them.

It is critical to note that the role of a teacher in developing tasks is highly involved as it is a pedagogy and not a scripted curriculum from a book. Teachers should be prepared to conduct their own version of teacher action research to determine what works best for their students. The tasks leading up to Task 4 were intended to support my students' performance and success with the task. Task 1 taught my students to consider the order of an illustrated story with shared information. Task 2 had them focus on the details of individual illustrations through split information. Task 3 also used split information to consider the order of an illustrated story. This led to Task 4 where the students were ordering shared information, considering the details of the given illustrations and creating new missing scenes to complete the story. Eventually, what started out as only four images became more than ten scenes. I thought critically about how these tasks would connect and support one another. Through my research I have learned which task designs worked for me when beginning to implement task-based language teaching. Based on my experience with tasks, I would recommend that educators start with open ended task and shared information in their tasks, and make sure there is a clear outcome. Open ended and

shared tasks allow students to access their multimodal sources for meaning making whereas closed outcome and split information restricts their application of modes.

By following these models, teachers can invite learners into a complex cycle where they can co-construct and negotiate multiple meanings through social semiotic resources. It is apparent to me that purposeful meaning making was most prevalent for my students within social exchanges about culturally relevant topics. Through the use and application of the dynamic semiotic resources, learning takes on a new dimension within the 21st century. As a culturally responsive educator and researcher, I consider the following questions: How can I design a task that uses complex meaning making? How will learners use their various semiotic resources to support their meaning making? In what ways, might they collaborate to construct new meaning? These findings lead me to believe that tasks provide an ideal learning environment where learners can socially construct and utilize their semiotic resources to design and make meaning.

The gap as an identified feature and emergent element.

Another critical feature to a task is gap. In each of my tasks, I had determined where the informational gap would be present within each task, however, I learned that the emergent gaps that developed within each task also played a key feature in the final product of each task. Some of the informational gaps included the removal of the written text that supported the illustrations, removing the intended sequences for the illustrations, and restricting illustrations into split information.

It was my intention that by using split information, my students would be producing more complex spoken language to communicate with one another, however, this is not how my students were able to proceed with this form of a task. For example, Task 2 included split information, the discourse mode and topic familiarity. It wanted the gap to be the illustrations

themselves because I thought the students would then focus on using their linguistic modes to communicate the information that they could see in their partners' illustrations. Because I had asked the students to compare and contrast the illustrations that they could see, the process of developing meaning of their own illustration was lost. The students were not addressing the information that their partners were verbalizing, rather they were developing meaning of the illustrations that they could see. For example, as explained in Excerpt 4.3: *Task 2: "Cracker, candy an[d] cloth,"* Buttercup used her semiotic resources to try and develop meaning of her own illustration based on what she could see from her partner's illustrations. Buttercup inferred that the details seen from both Aubree and Rex's illustrations were present within her own drawing. Buttercup most likely concluded this because her partners' illustrations were the only visual source of information where she could develop meaning.

This poses the question, how is the gap supporting my students' meaning making? Additionally, what kind of gap supports my students' meaning making? The images that the students could see were used as the primary tool for meaning making rather than the oral language describing the images. Kress (2010) explains that images take up a given arranged space and is something that can be observed over time. Conversely, spoken language is a frequently utilized mode for communication among people (Kress, 2010), yet, in this situation, Buttercup's meaning making potential of her own illustration had been restricted because it was out of view. The spoken descriptions that Aubree and Rex shared with Buttercup were lost in application due to the fact that she was not able to see her own image. For this reason, the students were struggling to connect with the purpose of the task, which was to understand their own illustration. Having the student compare and contrast the illustrations they could see and

expecting them to understand their own image in the process, was not a clearly designed task for my students to perform.

Furthermore, the process of redoing Task 2 prompted me to use more scaffolding which I thought would support the students meaning making and application of the images. Scaffolding, as defined by Smagorinsky (2018), “consists essentially of the adult ‘controlling’ those elements of the task that are initially beyond the learner’s capacity” (p. 73). I had initially thought that the challenges present in Task 2 were because the students did not have a structured way to record the observations they were making regarding their partner’s images. This is why I developed a graphic organizer for the students to record notes and observations based on what they were viewing with each partner. Yet it was the design of the task and the use of split information gap that was limiting the students’ overall meaning making. They were making meaning of what their partners’ images include rather than making meaning of the language that was spoken to them. It would have made more sense to have the students ask questions about their image and write notes down on their paper based on what their partners were sharing. Then the students could start to construct meaning of their own image and possibly a drawing of the image before looking at their own image. I also could have redesigned this task to focus on topic familiarity with shared information and had the students discuss what they knew about these cultural tools and then write about a time when they had done this cultural work.

Task 2 did not result with the outcome I was anticipating because I did not ask the question, ‘what is the purpose of the task,’ before presenting the task to my students. I assumed my students would be able to rely on only their linguistic mode of meaning make to develop their understanding of their own images. If I had asked ‘why are the students looking at the other pictures and now their own picture,’ I might have identified the obscurity in the task before

presenting it. When designing tasks, teachers must ask the question: What do you want the students to learn and as a result what do you want them to develop? How will the presented gap support my students' meaning making? Without clear answers to these questions, the task most likely results in a different outcome than intended.

Special education teachers and task designer.

Thoughtfully designed tasks have the power to break down the walls of restrictive and binding curriculum and can provide dynamic possibilities in education. Considering Special Education curriculum, it is in some cases not provided or is overly structured and presented without culturally relevant consideration. For example, the *System 44 Next Generation* (2014) program and the Bell's (2007) *Visualizing and Verbalizing* were constructed for a broad audience. I have found and learned that this form of intervention impedes my student learning as it is not relevant to their cultural skills and knowledge.

Special Education is many times stereotyped as "easy" instruction or basic learning meant for students who are slow or challenged. This is not how I view my responsibilities as a Special Education teacher and, in fact, hope that this study reflects the opposite of those stereotypes. I believe that as a Special Education teacher, I must design the instruction specific to the needs of the student. We must consider skills and strengths to develop instruction that will support the growth and progression of goals and objectives in the different areas of need. I have learned that my emerging bilingual students can think critically and are willing to take a risk in their learning. Tasks can enrich student instruction and allow them to do sophisticated and open-ended meaning making.

The concept of tasks and multimodal meaning making could also shift the way IEP goals and objectives are created. Typically, student IEP goals are written to reflect growth by

percentage until reaching mastery. For example, a language objective could state, “the student will accurately identify 95% of the first 300 Dolch sight words by the end of the school year.” This is a measurable objective and the progress could be tracked easily with the student. This would be a great goal for a student who is still learning sight words, yet, would we not also want to address the meaning that these words help learners develop? What if Special Education teachers examined tasks as a way to structure measurable and observable goals and objectives from? This is a challenging question to answer because it is difficult to place a measure on the progress of meaning making one develops through a task. When I think about the meaning that my students made during these tasks, I know that they have constructed meaning through the semiotic tools that they had available to their learning. I wonder how my students could continue to construct meaning and apply their skills of meaning making to other tasks. This would look very different from student to student, yet this idea would highlight just how important it is to consider each individual student critically when developing their IEP. An example of an observable goal could be phrased as “the student will construct meaning while performing task based instruction through their linguistic resources four out of five opportunities.” This goal construction would require Special Education teachers to critically examine each student for their individual needs in meaning making. I believe this is an important area of education that should be further investigated to promote purposeful learning and further student success.

Implications for Researchers

By completing this teacher action research, I now question how to structure tasks and lessons to support my student’s modal application towards meaning making of text? How does this work now support reading comprehension? I have learned that my students’ meaning

making is highly impacted by the available designs my students have to work with. When restrictions are put into place on how they can develop meaning, they are limited in constructing a completely developed idea. This leaves my students circling in information rather than applying it and building upon it through the designing process. When students are provided access to all semiotic resources, there can be multiple meaning potentials developed and shared amongst learners.

As I remain in teaching, I hope I continue investigating the multimodal meaning making potential of my students. It would be interesting to have my students realize how different modes support their meaning making in such a way that they understand when to utilize what mode for the given situation. For example, all information cannot be presented in picture form such as the steps in cooking a recipe or the warning labels on products that have been purchased. In an effort to prepare my students for success, it is critical that my students understand how language is used and supports the visual symbols and cues. This research has taught me that my students have the resources they need to make meaning. It is just a matter of creating an environment where application and meaning can be redesigned and developed into new understandings. This journey of teacher action research is a cyclical process and it will continue to spiral my thinking as I teach new students each year. One thing will remain consistent through my future teaching and learning is that I will connect to the interests and funds of knowledge of learners because I know that these connections create greater potential for meaning-making.

References

- Abraham, P., & Farias, M. (2017). Reading with eyes wide open: Reflections on the impact of multimodal texts on second language reading. *Ikala, Revista de language y cultura*, 22(1), 57-70.
- Bell, N. (2007). *Visualizing and verbalizing: For language comprehension and thinking*. Lindamood-Bell®, San Luis Obispo, CA: Gander Publishing.
- Bethel fish trap. (1896). Roaming Collection, Moravian Archives, Bethlehem, PA. Retrieved from <http://www.yupikscience.org/9fallfishing/9-1.html>
- Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). Thousand Oaks, CA: SAGE.
- Cope, B., & Kalantzis, M. (2009). "Multiliteracies": New literacies, new learning. *Pedagogies: An International Journal*, 4(3), 164-195.
- Diamond, L. & Thorsnes, B. J. (Eds.). (2018). *Assessing reading: Multiple measures* (2nd ed.). Oakland, California: Consortium on Reaching Excellence in Education, Inc.
- Ellis, R. (2003). Tasks in SLA and language pedagogy. In Ed. *Task-based language learning and teaching* (pp. 1-35). New York, NY: Oxford University Press.
- Ellis, R. (2009). Task-based language teaching: Sorting out the misunderstandings. *International Journal of Applied linguistics*, 19(3), 221-46.
- Ellis, R. (2017). Task-based language teaching. In S. Loewen, & M. Sato (Eds.), *The Routledge handbook of instructed second language acquisition* (pp. 108-125). New York, NY: Routledge.
- Ellis, R., & Shintani, N. (2014). *Exploring language pedagogy through second language acquisition research*. New York, NY: Routledge.

- Freire, P. (2005). *Teachers as cultural workers: Letters to those who dare teach*. Boulder, Colorado: Westview Press.
- Healy, A. (2008). Expanding student capacities: Learning by design pedagogy. In A. Healy (Ed.), *Multiliteracies and diversity in education: New pedagogies for expanding landscapes* (pp. 2-29). New York, NY: Oxford University Press.
- Jewitt, C. (2011). An introduction to multimodality. In C. Jewitt (Ed.), *The Routledge handbook of multimodal analysis* (14-27). New York, NY: Routledge.
- Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication*. New York, NY: Routledge.
- Lantolf, J. P., & Thorne, S. L., (2006). *Sociocultural theory and second language learning*. (197-221). The Pennsylvania State University.
- Lantolf, J. P., Thorne, S. L., & Poehner, M. E. (2015). Sociocultural theory and second language development. In B. VanPatten & J. Williams (Eds.), *Theories in Second Language Acquisition* (pp. 207-225). New York, NY: Routledge.
- Lincoln, Q. R., & Moses, C. S. (2013). *Angqalleq Kiagmi*. Bethel, Alaska: Lower Kuskokwim School District.
- Lyster, R. (2007). *Learning and teaching languages through content: A counterbalance approach*. Philadelphia, PA: John Benjamins North America.
- Martin, K. (2008). The intersection of Aboriginal knowledges, Aboriginal literacies, and new learning pedagogy for Aboriginal students. In A. Healy (Ed.), *Multiliteracies and diversity in education: New pedagogies for expanding landscapes* (pp. 58-81). New York, NY: Oxford University Press.

- Mills, G. (2018). *Action research: A guide for the teacher educator* (6th ed.). Upper Saddle River, NJ: Pearson.
- Moll, L. (1992). Bilingual classroom studies and community analysis: Some recent trends. *American Educational Research Association*, 21(2), 20-24.
- Moll, L., Saez, R., & Dworin, J. (2001). Exploring biliteracy: Two student case examples of writing as a social practice. *The Elementary School Journal*, 101(4), 435-445.
- Moses, K. C., & Moses, C. S. (2013a). *Uqiqurnariuuq*. Bethel, Alaska: Lower Kuskokwim School District.
- Moses, K. C., & Moses, C. S. (2013b). *Ciquyam Pit'qerraallra*. Bethel, Alaska: Lower Kuskokwim School District.
- National Governors Association Center for Best Practices, & Council of Chief State School Officers. (2018). Retrieved from <http://www.corestandards.org>
- New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review*, 66(1), 60-92.
- Omaggio-Hadley, A., (2001). *Teaching language in context* (3rd ed.). Boston, MA: Thomson Heinle.
- Piciryaramta Elicungcallra (2014). The University of Alaska at Fairbanks, Fairbanks, Alaska. Retrieved from <https://www.uaf.edu/pe/materials/>
- Prince-Ellingstad, D., Reynald, J., Ringer, L., Ryder, R., & Sheridan, S. (2000). A guide to the individualized education program. *Office of Special Education and Rehabilitative Services U.S. Department of Education*. Jessup, MD: U.S. Department of Education.
- Samson, A. S., & Moses, C. S. (2013). *Iqvaryaqaqtartukut*. Bethel, Alaska: Lower Kuskokwim School District.

- Scholastic Education (n.d.). Foundation paper: *Supporting special education students with System 44*. Retrieved from <http://teacher.scholastic.com/products/common-core/pdf/System44-IDEA-Special-Ed-Alignment.pdf>
- Serafini, F. (2011). Expanding perspectives for comprehending visual images in multimodal texts. *Journal of Adolescent & Adult Literacy*, 54(5), 432-350.
- Smagorinsky, P. (2018). Deconflating the ZPD and instructional scaffolding: Retranslating and reconceiving the zone of proximal development as the zone of next development. *Learning, Culture and Social Interaction*, 16, 70-75.
- Storch, N. (2002). Patterns of interaction in ESL pair work. *Language Learning*, 52(1), 119-158.
- Storch, N. (2017). Sociocultural theory in the L2 classroom. In S. Loewen & M. Sato (Eds.), *The Routledge handbook of instructed second language acquisition* (69-83). New York, NY: Routledge.
- Swain, M. (2000). The output hypothesis and beyond: Mediating acquisition through collaborative dialogue. In J. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 97-114). New York, NY: Oxford University Press.
- Swain M., & Lapkin S. (1998). Interaction and second language learning: Two adolescent French immersion students working together. *The Modern Language Journal*, 82(3) 320-337.
- System 44 Next Generation [Computer software]. (2014). Houghton Mifflin Harcourt.
- United States Census Bureau. (2010). Toksook Bay city, Alaska. Retrieved from https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml#
- Vygotsky, L. S. (1978). Internalization of Higher Psychological Functions. In M. Cole, V. John-Steiner, S. Scribner & E. Souberman (Eds.), *Mind in Society: The development of higher*

psychological processes (52-91). United States of America: President and Fellows of Harvard College.

Waugh, L. M. (1935). *Woman fishing for tomcod through the ice, jigging her line up and down to attract the fish*. New York, NY: Smithsonian National Museum of the American Indian. Retrieved from <http://www.yupikscience.org/9fallfishing/9-2.html>

Wells, G. (2009). Community dialogue: The bridge between individual and society. *Language Arts*, 86(4), 290-301.

Wilson, S. (2008). *Research is ceremony: Indigenous research methods*. Black Point, Nova Scotia: Fernwood Publishing.

Yup'ik hunter in a kayak wearing a hunting hat. (1928). Nunivak Island, Alaska. New York, NY: Smithsonian National Museum of the American Indian. Retrieved from <https://americanindian.si.edu/exhibitions/infinityofnations/introduction/106921.html>

Appendices

Appendix A: Project Approval Letter



(907) 474-7800
(907) 474-5444 fax
uaf-irb@alaska.edu
www.uaf.edu/irb

Institutional Review Board

909 N Koyukuk Dr. Suite 212, P.O. Box 757270, Fairbanks, Alaska 99775-7270

November 13, 2017

To: Sabine Siekmann
Principal Investigator
From: University of Alaska Fairbanks IRB
Re: [1151916-1] Co-construction for Meaning During Oral and Written Narrative Dialogue

Thank you for submitting the New Project referenced below. The submission was handled by Expedited Review under the requirements of 45 CFR 46.110, which identifies the categories of research eligible for expedited review.

Title:	Co-construction for Meaning During Oral and Written Narrative Dialogue
Received:	November 2, 2017
Expedited Category:	6 and 7
Action:	APPROVED
Effective Date:	November 13, 2017
Expiration Date:	November 13, 2018

This action is included on the December 6, 2017 IRB Agenda.

No changes may be made to this project without the prior review and approval of the IRB. This includes, but is not limited to, changes in research scope, research tools, consent documents, personnel, or record storage location.

America's Arctic University

UAF is an AA/EEO employer and educational institution and prohibits illegal discrimination against any individual:
www.alaska.edu/titleIXcompliance/nondiscrimination.

Appendix B: Amendment/Modification Letter



(907) 474-7800
(907) 474-5444 fax
uaf-irb@alaska.edu
www.uaf.edu/irb

Institutional Review Board

909 N Koyukuk Dr. Suite 212, P.O. Box 757270, Fairbanks, Alaska 99775-7270

July 16, 2018

To: Sabine Siekmann
Principal Investigator
From: University of Alaska Fairbanks IRB
Re: [1151916-2] Co-construction for Meaning During Oral and Written Narrative Dialogue

Thank you for submitting the Amendment/Modification referenced below. The submission was handled by Administrative Review under the requirements of 45 CFR 46.110, which identifies the categories of research eligible for expedited review.

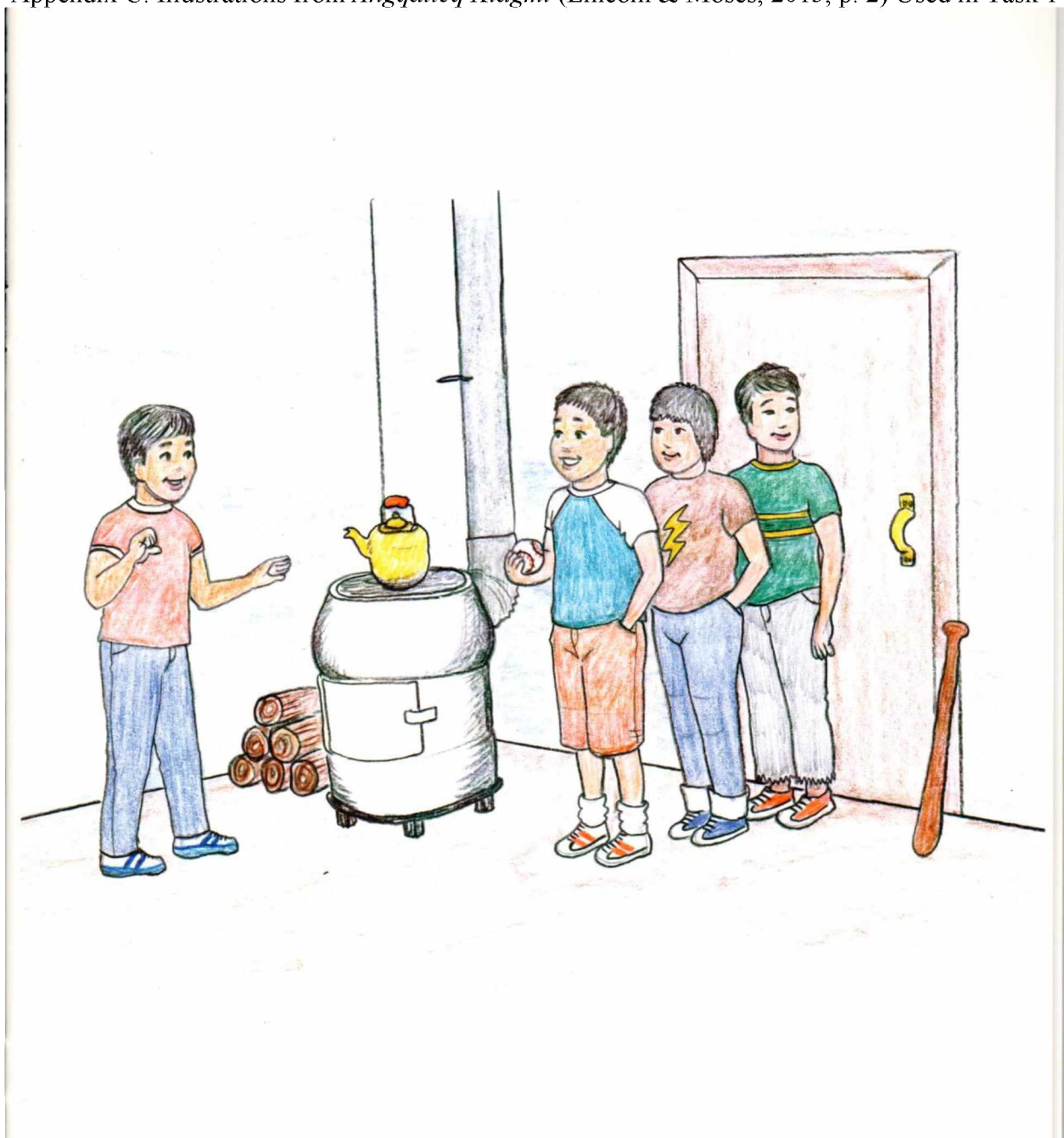
Title:	Co-construction for Meaning During Oral and Written Narrative Dialogue
Received:	July 13, 2018
Expedited Category:	7
Action:	APPROVED
Effective Date:	July 16, 2018
Expiration Date:	November 13, 2018

This action is included on the August 1, 2018 IRB Agenda.

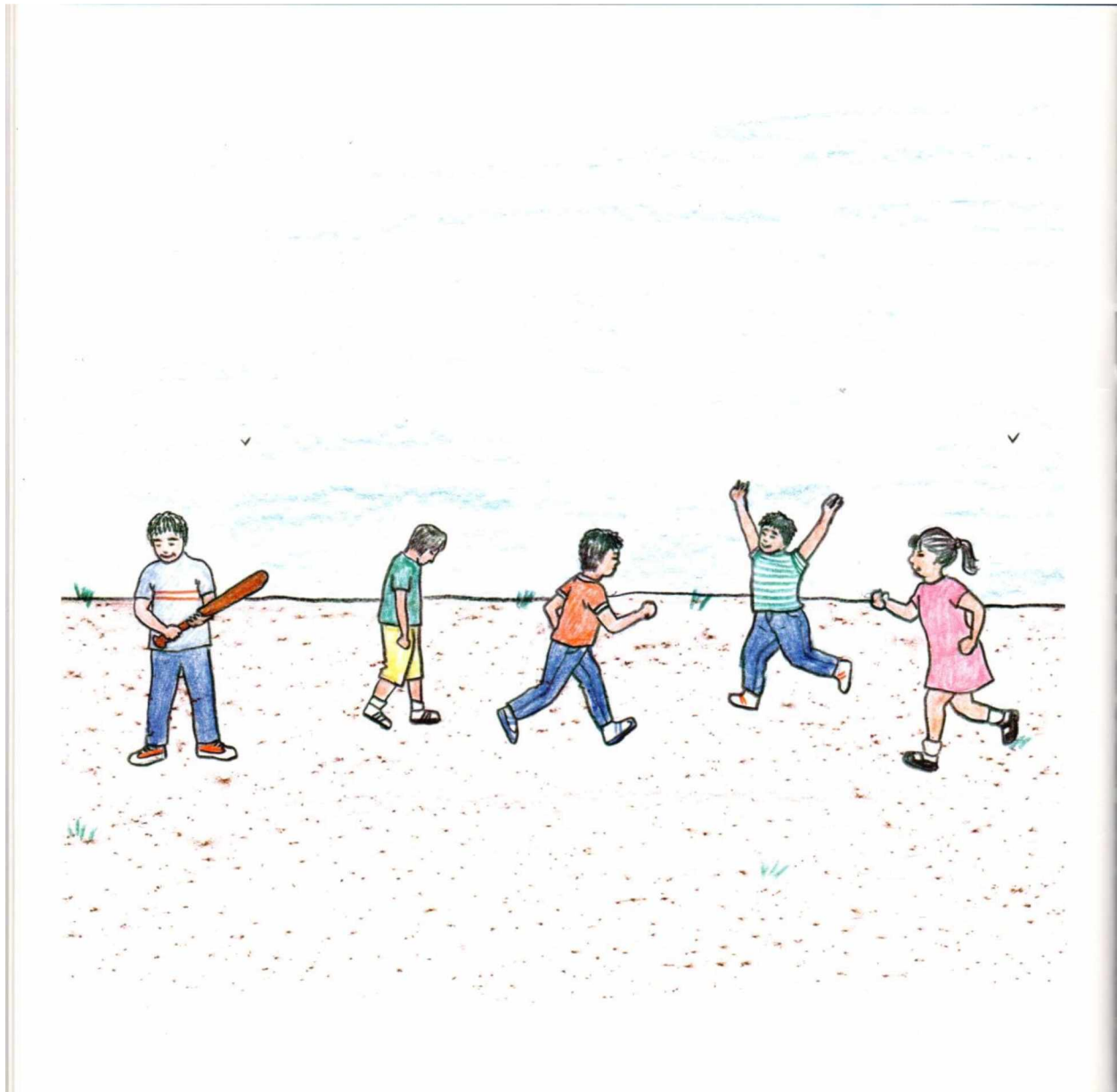
No changes may be made to this project without the prior review and approval of the IRB. This includes, but is not limited to, changes in research scope, research tools, consent documents, personnel, or record storage location.

America's Arctic University

UAF is an AA/EQ employer and educational institution and prohibits illegal discrimination against any individual:
www.alaska.edu/titleIXcompliance/nondiscrimination.



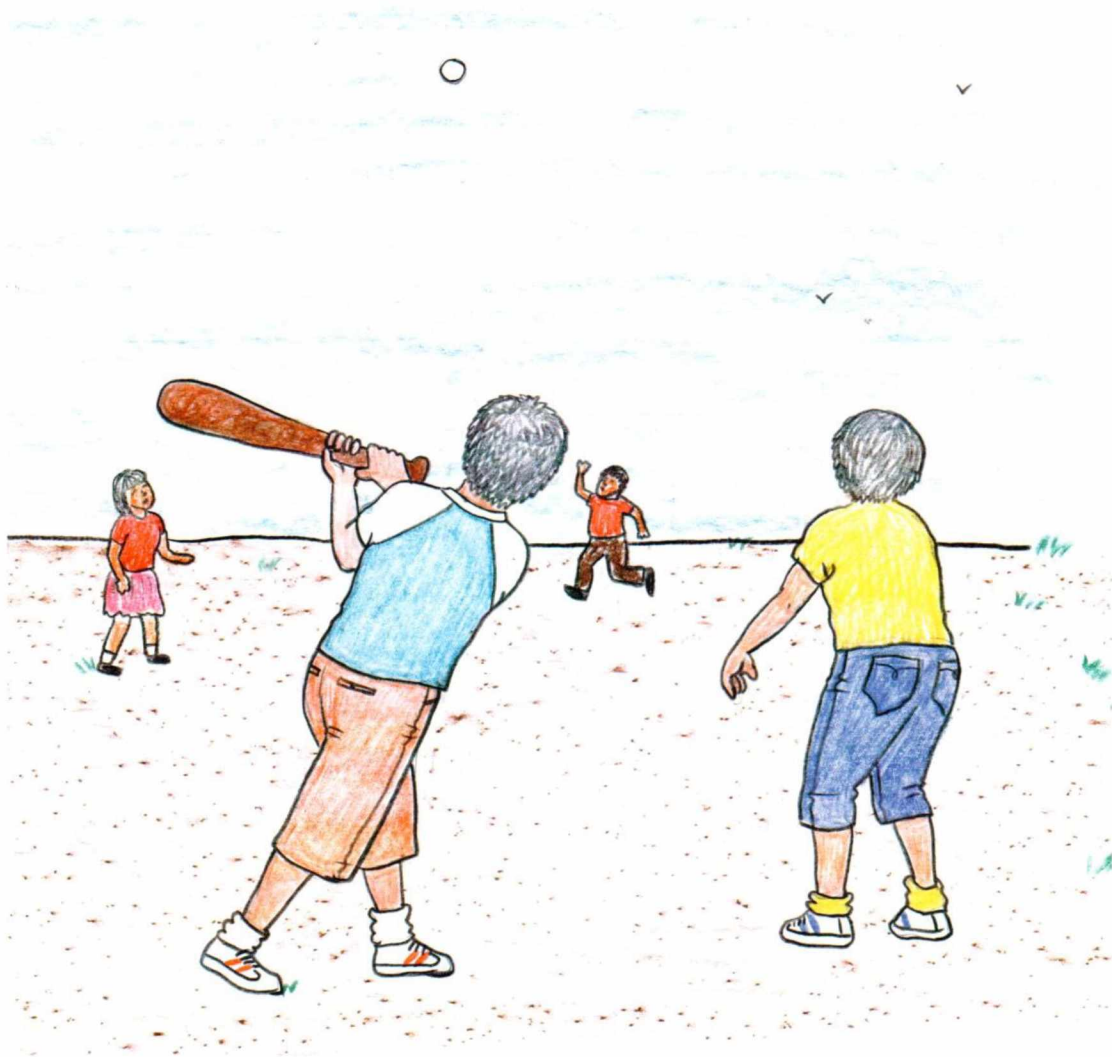
Used in Task 1



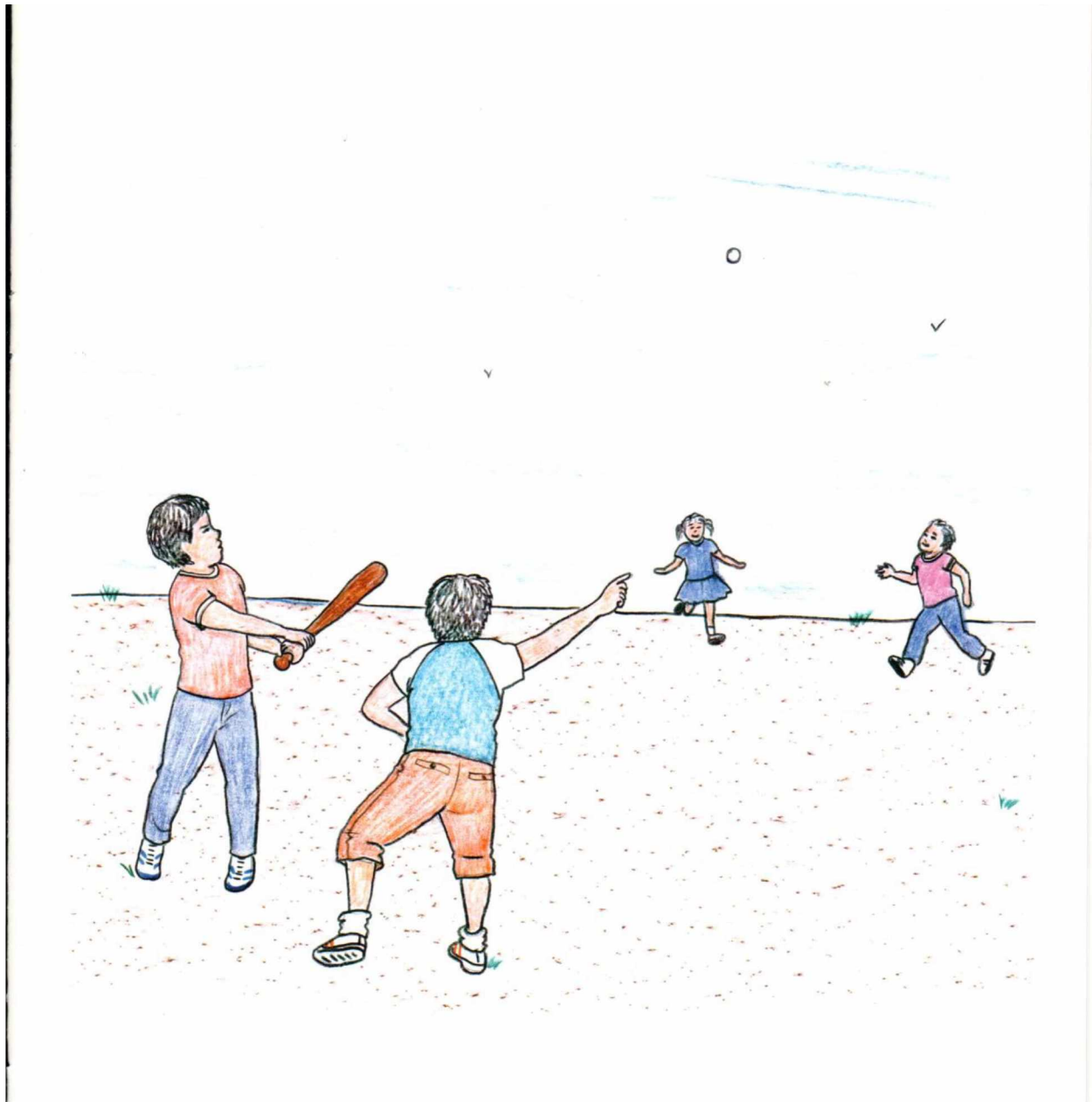
Used in Task 1



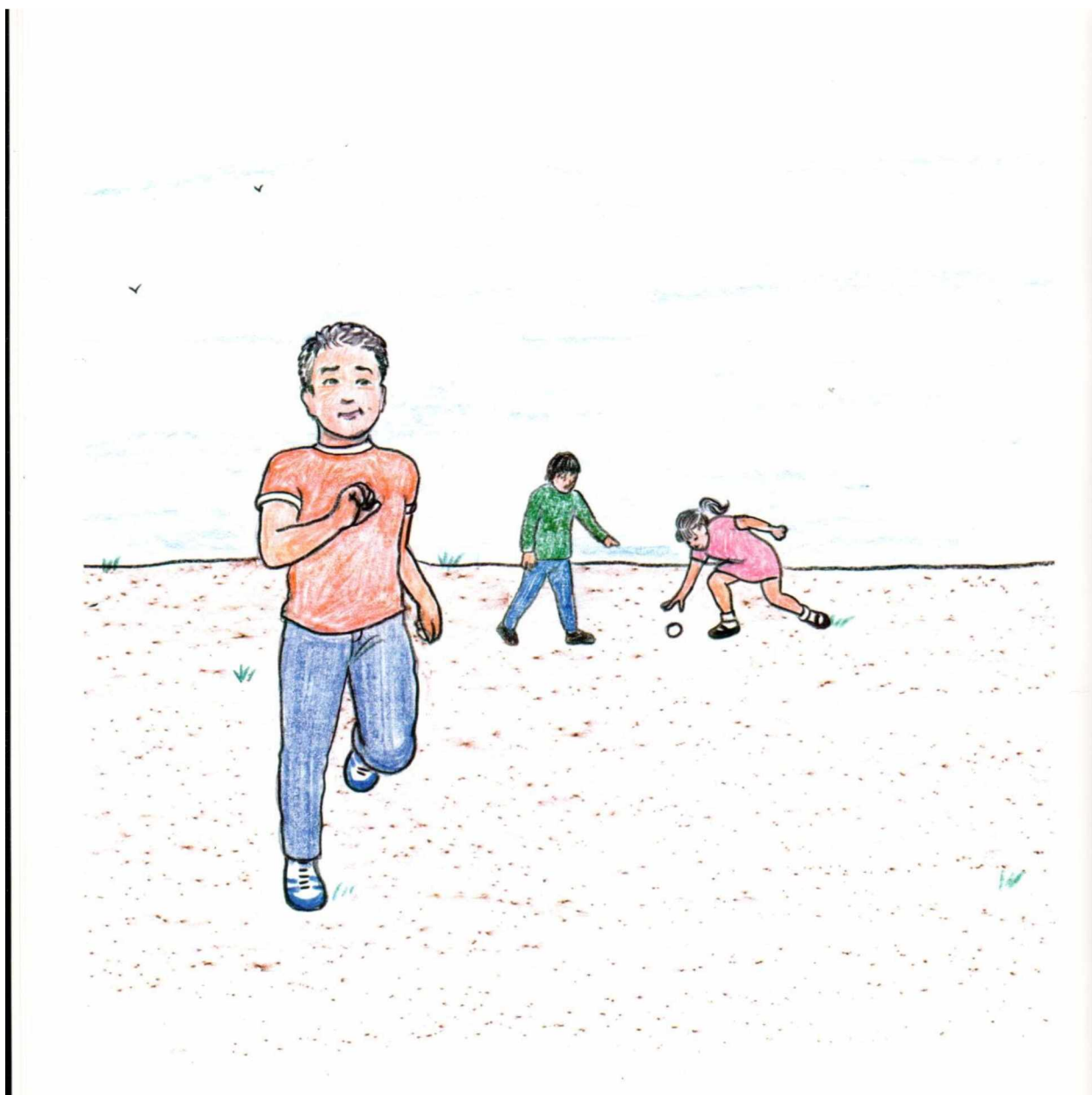
Used in Task 1



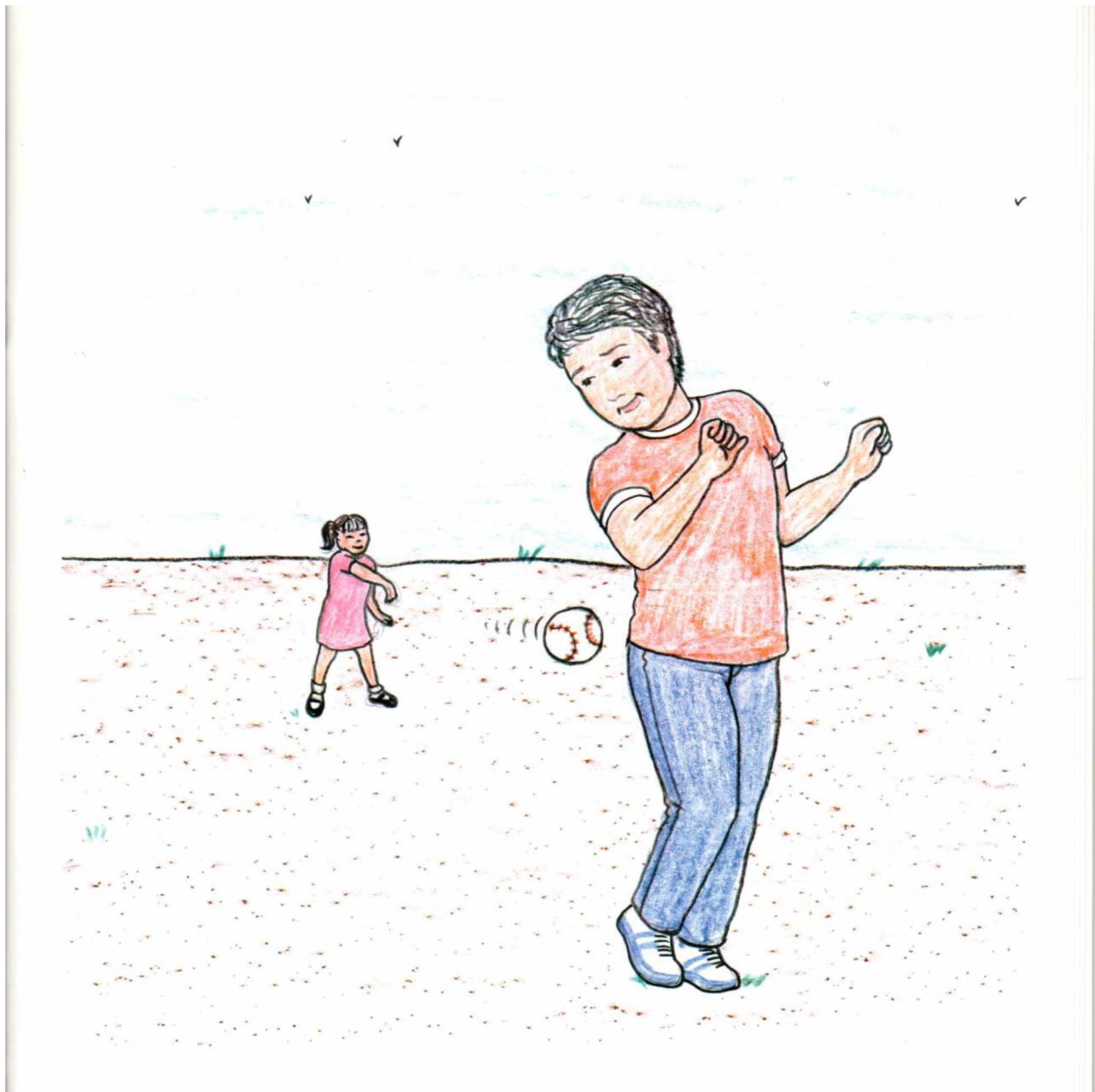
Used in Task 1



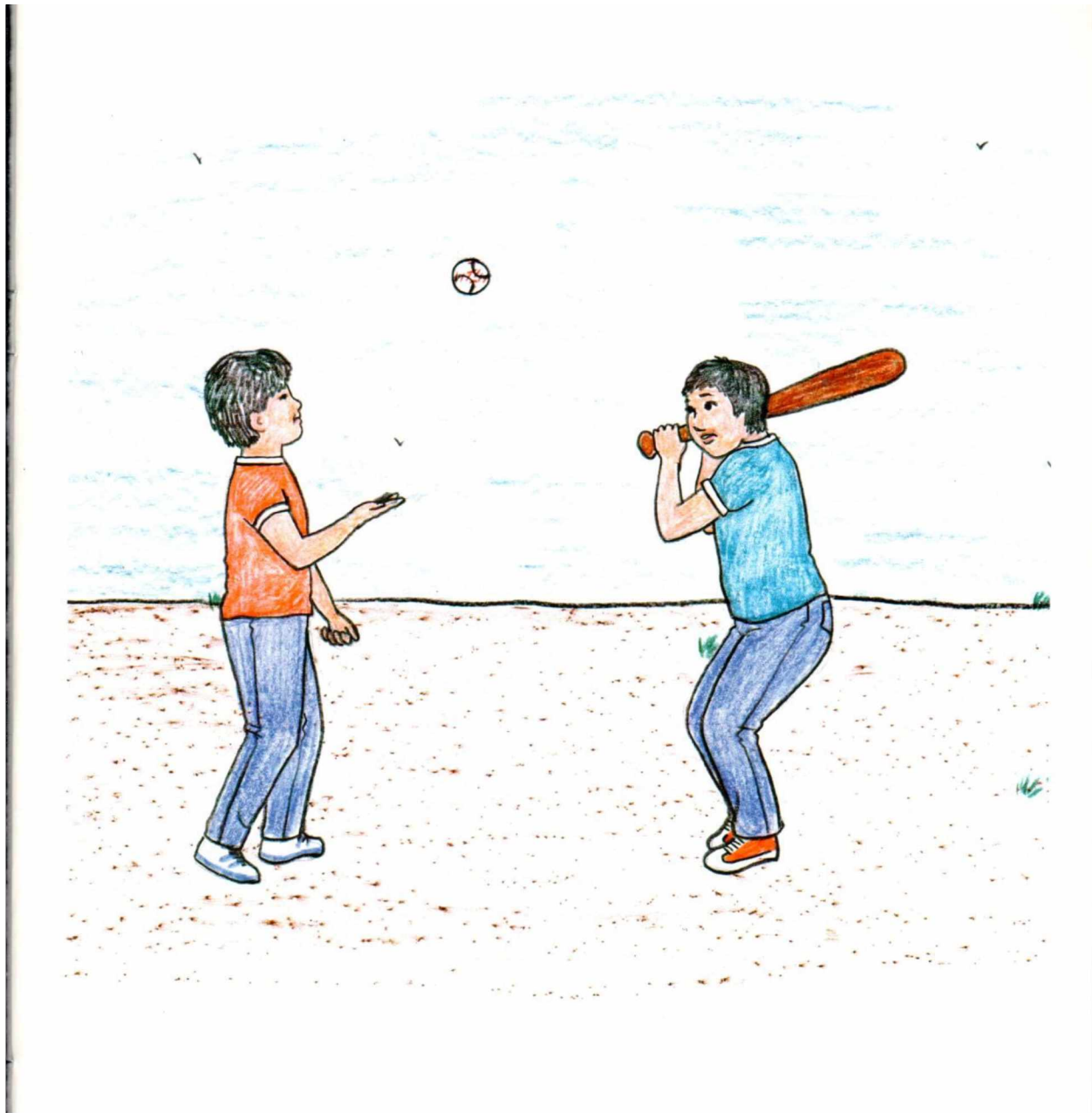
Used in Task 1



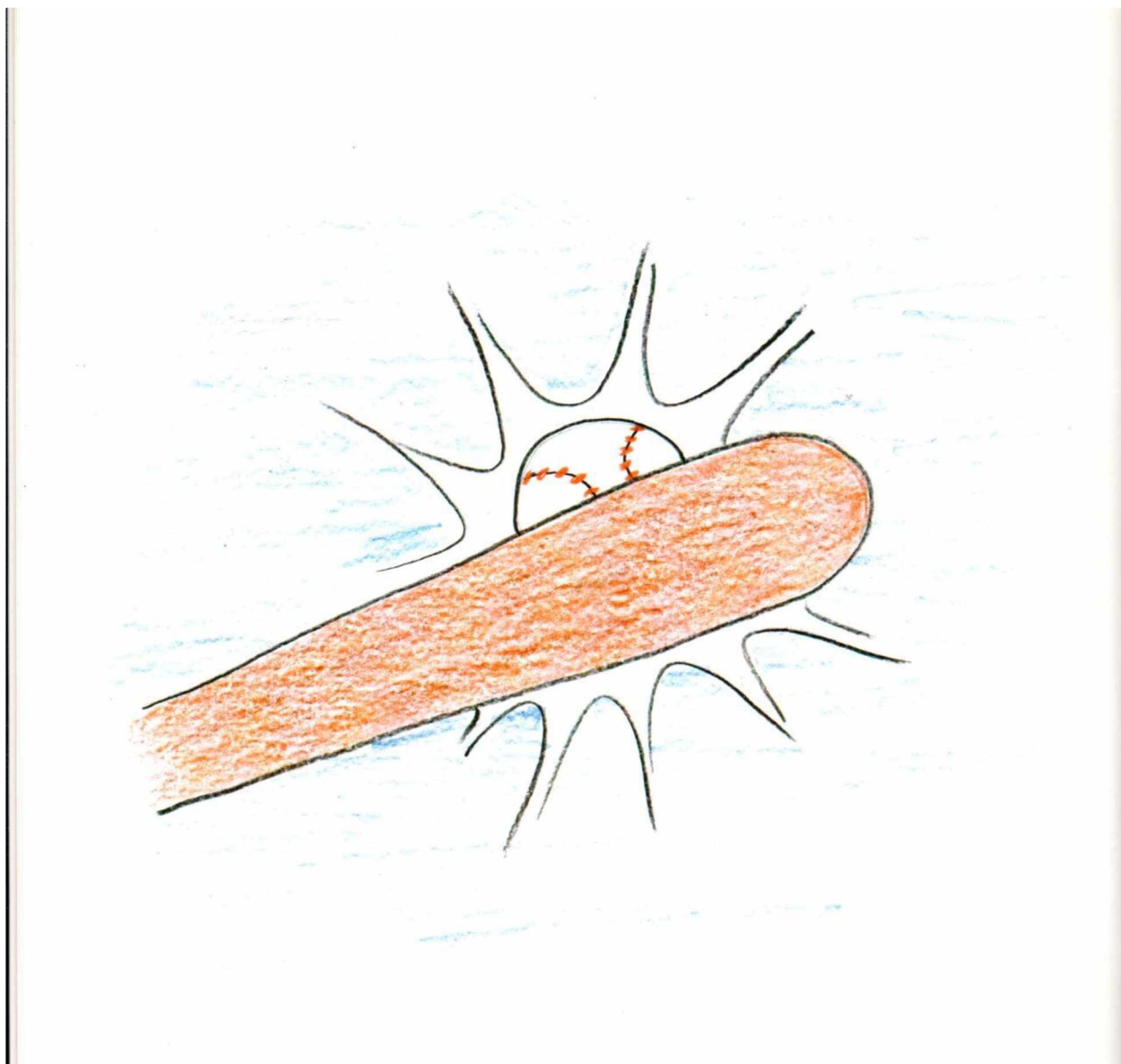
Used in Task 1



Used in Task 1

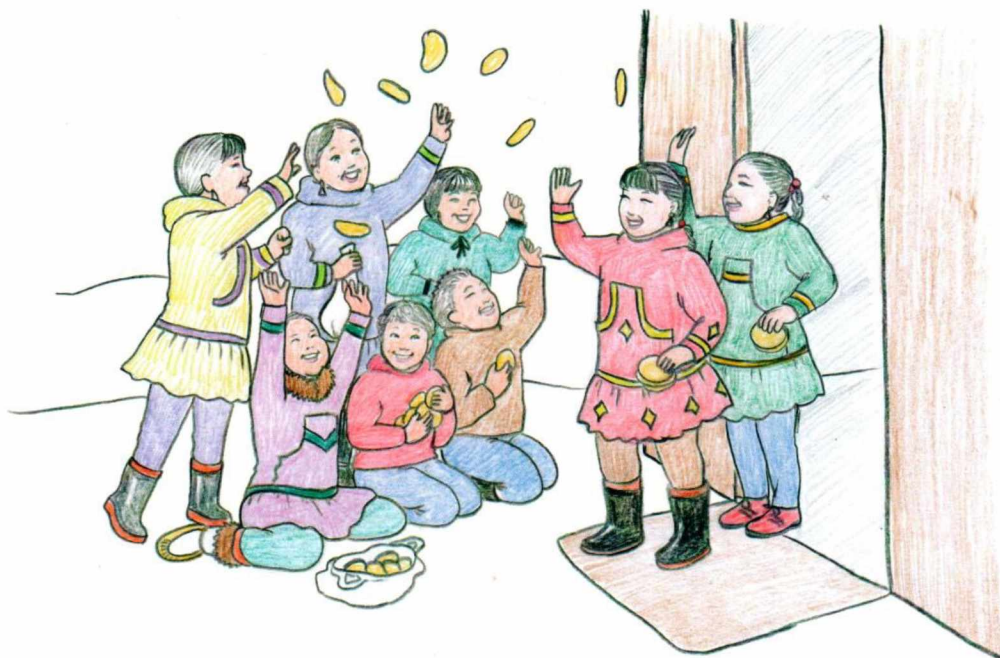


Used in Task 1



Used in Task 1





Task 2



Task 2



Appendix E: Buttercup Task 2 Written Reflection

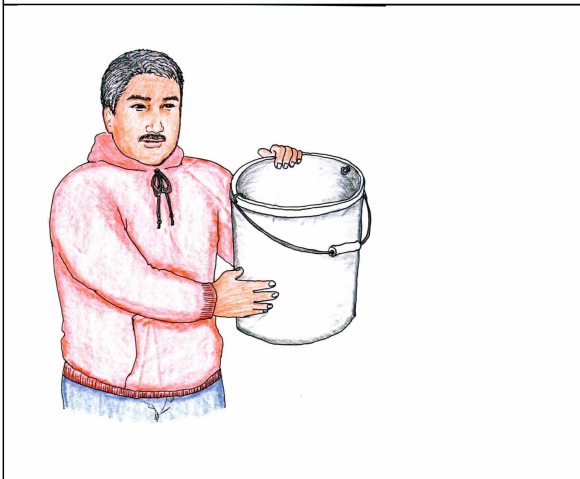
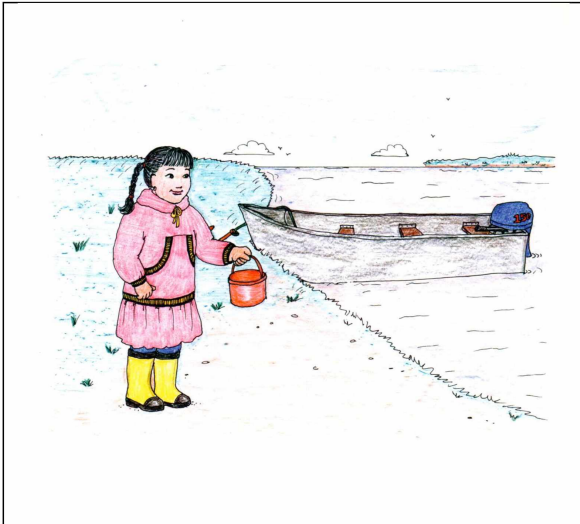
Buttercup

Activity 2 Journal Prompt:

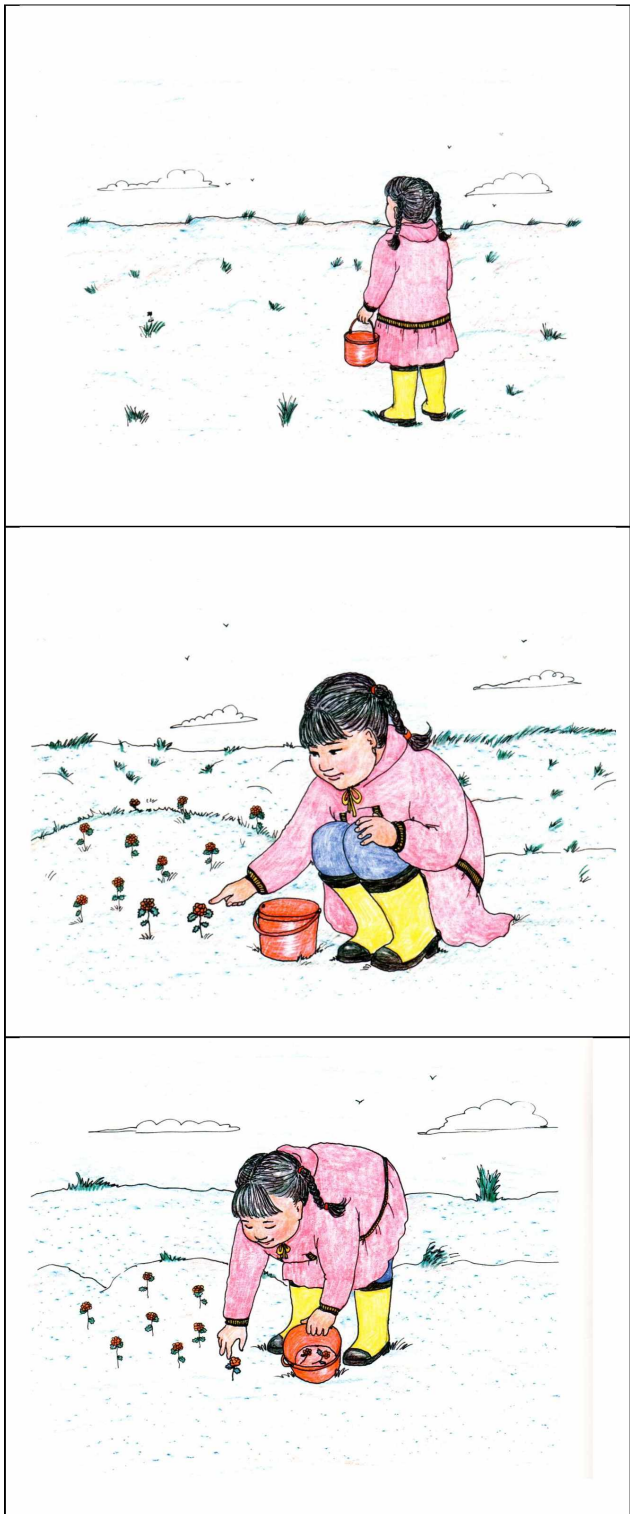
What is necessary when you are trying to identify similarities and differences?

There was kids who were throwing
candies. Then there were
hung and had ice cream. Then
they are old and had
fun to have ice cream.

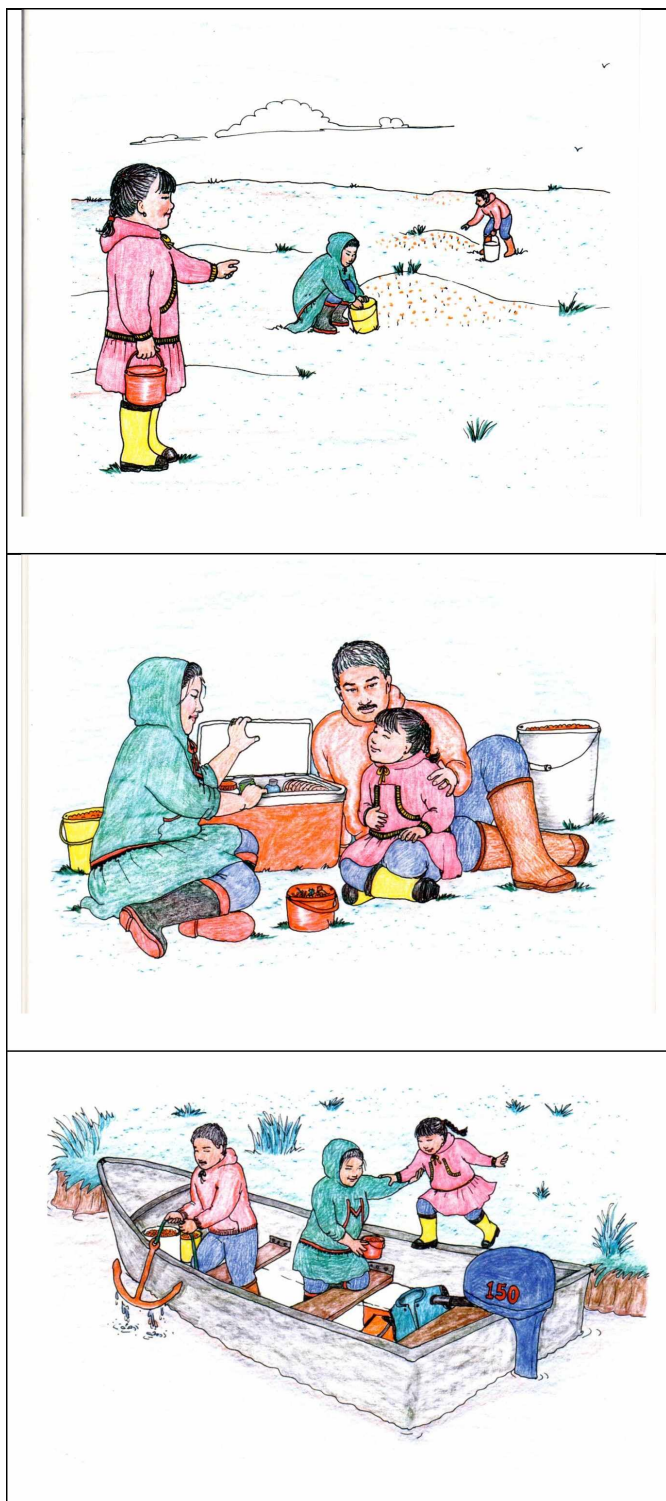
Task 3



Used in Task 3



Used in Task 3



Task 4



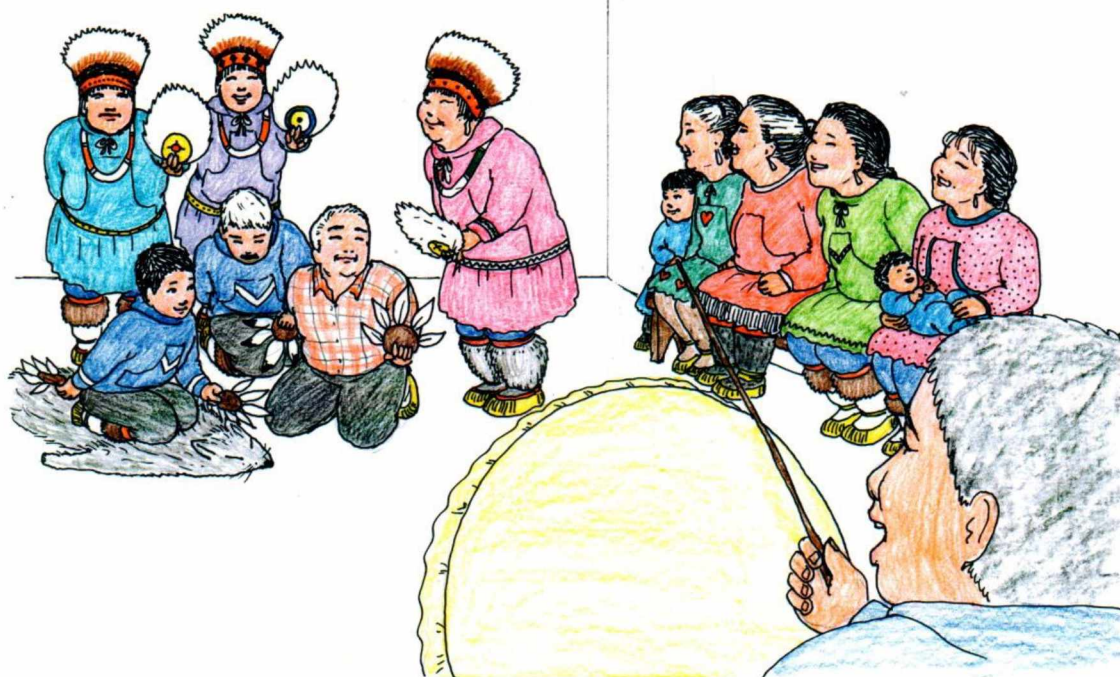
Used in Task 4



Used in Task 4



10) Used in Task 4



Appendix H: Student Drawings for Task 4



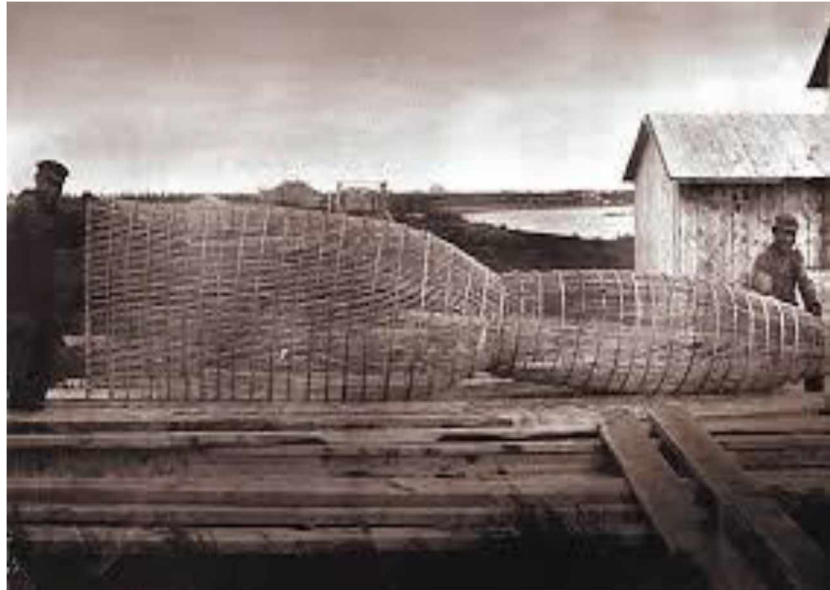
Appendix H Continued: Student Drawings for Task 4



Appendix I: Images Used in Task 5



Appendix I Continued: Images Used in Task 5



Appendix I Continued: Images Used in Task 5



Appendix J: Task 1 Journal Prompt

Name: _____

Activity 1 Journal Prompt:

Write about what this story is about from beginning to end using the pictures to support your answer.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Appendix K: Task 2 Journal Prompt

Name: _____

Activity 2 Journal Prompt:

What is necessary when you are trying to identify similarities and differences?

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Appendix L: Task 3 Journal Prompt

Name: _____

Activity 3 Journal Prompt:

What is happening in your set of pictures?

Describe the order of the story.

Appendix M: Task 4 Journal Prompt

Name: _____

Activity 4 Journal Prompt:

What information is missing from this picture story?

Describe what this story is about from beginning to end.

Appendix N: Task 5 Journal Prompt

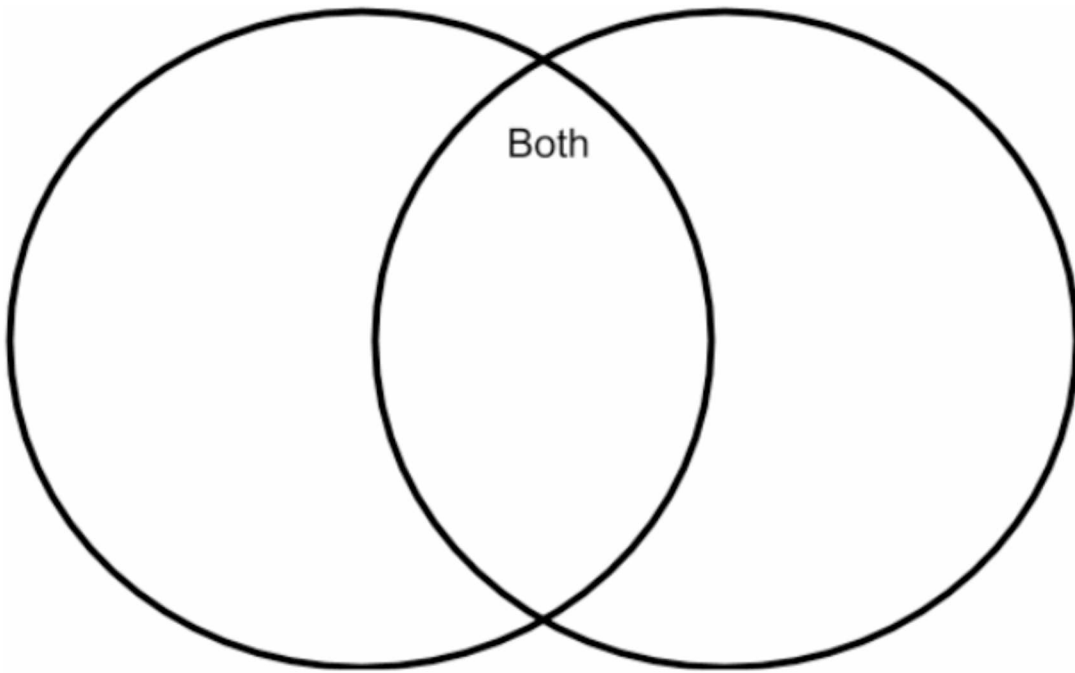
Name: _____

Activity 5 Journal Prompt:

In the table below list what is similar and different about the different images you see on your partners images.

Partner 1 _____

Partner 2 _____



What do my partners say are in my image?

What could all these items could be used for?

Describe a time when you would use the items found on your pictures:
